IPR DURAS PROJECT

Linking farmers to markets through valorisation of local resources: the case for intellectual property rights of indigenous resources

SCIENTIFIC REPORT

Prepared by Estelle Biénabe, Cerkia Bramley, Johann Kirsten and Dirk Troskie

With contributions from Steve Carr, Danie Jordaan, Gillian Maggs Kohlin, Michel Mallet, Phumlani Mentani, Merida Roets, Bernd Rothkegel, Hester Vermeulen, Hettie Schönfeldt

May 2010

TABLE OF CONTENT

SECTION A
INTRODUCTION TO IPR DURAS PROJECT

SECTION B
CASE STUDY DOCUMENTATION

ANNEXURES

SECTION A

INTRODUCTION TO THE IPR DURAS PROJECT

1. INTRODUCTION

1.1 Project rationale and general objectives

The world wide trend in food consumption patterns, towards more diverse products with a strong cultural value, is creating opportunities for rural producers to move away from low value agricultural production into niche markets. However, despite a rich diversity of traditional knowledge and indigenous resources (Cape indigenous flora, Mopani worms, Marula fruit etc.) and with the production of many agro-food products rooted in the use of these local resources (Honeybush tea; Rooibos tea; Karoo lamb; Boer goat; ostrich products), rural communities in the South African Development Community (SADC) region generally market low value products or raw materials. Considering that many of these community based products have a given quality, reputation or other characteristic essentially attributable to their geographical origin, labeling and protection through a geographical indication (GI) could apply to them and institutionalize the tacit reputation which consumers confer on some geographic or cultural attributes. Where differentiated products do exist, they are often the result of the initiative of medium or large-scale farmers and enterprises. A need thus arose to explore the potential for improving and strengthening rural communities' linkages to the market through geographical indication labeling and collective action. This formed the basis for this research project[1] which was implemented between 2005 and 2008.

The project commenced by exploring the current lack of a suitable public system for protecting GIs in Southern Africa. In contrast to the European Union, the current South African legal framework only provides for the protection of GIs as collective and, in certain circumstances, as certification trademarks. The lack of a public system through which to valorize GIs was identified as excluding resource poor farmers (but also commercial larger scale farmers) from a potentially useful tool for improving their market access. The need for a public system of protection also emanates from the significance of the wild resources found in South Africa and Namibia, which are often the only source of income for resource poor communities and which is threatened by bio-piracy. It thus appeared important to assess the merits of developing an institutional framework for protecting GIs in Southern Africa and to evaluate the needs for a *sui generis* legal system. Secondly, an analysis was done of the local dynamics based on specific agro-food products.

Two central questions were therefore addressed by the project: "How can local communities successfully protect their resources and differentiate their production through GIs?" and "What is the nature and extent of the required institutional and legal framework to achieve this objective?". The project set out to provide conceptual and procedural considerations to

[1] The project was funded by DURAS, a joint GFAR - Agropolis International initiative supported by the French Ministry of Foreign and European Affairs through its Priority Solidarity Fund (PSF).

the potential use of GIs in order to protect and utilize indigenous knowledge and resources to the benefit of local communities.

1.2 Project overview

The general purpose of the project was to carry out case studies, carefully selected from a range of potential cases, in order to assess the potential for improving resource poor farmers' market access through GIs and to design tools to take advantage of the potential for protecting local resources and knowledge through GIs in order to create dynamics for the valorization of specific local resources.

The project was closely involved with the policy process, in particular by engaging government representatives as core partners and stimulating the public debate on GIs in South Africa and Namibia. The GI concept and general idea of protecting indigenous resources was not totally novel at South African Government and research level, in part due to a Western Cape Department of Agriculture initiative that resulted in draft legislation for protecting GIs. The project, however, introduced the concept of GIs to Namibia where no previous initiatives of its kind had been undertaken. There was a strong need to create awareness and build capacity in both countries on how to think about the importance of protecting indigenous resources and traditional knowledge. Project meetings and informal exchanges provided a forum for the transfer and sharing of information on the different dimensions of GIs in a Southern African context. Furthermore, agricultural production and commercialization is generally characterized by limited collective action both at local and national level. Commercial farmers are accustomed to acting on an individual basis and emerging and resource poor farmers are generally poorly involved in organizations. The project thus aimed to engage with actors at industry and community level to enhance the potential for protecting and promoting some origin-based products. A strong emphasis was placed on capacity building and information sharing.

Given the novelty of GIs in Southern Africa, the project was based on a gradual process of exploring the relevance of the GI concept in South Africa and Namibia and its possible implementation. This process comprised of different steps that consisted firstly of an exploratory phase to better comprehend the diversity of localized resources through an inventory of indigenous knowledge and resources that local communities claimed were unique. A two page call for submission was widely disseminated to consult a large audience (NGOs, government departments, farmers' magazines, producer organizations etc.) and invite people to submit potential case studies. The call was published in different newspapers and broadcast on different radio programs. A selection process followed that sought to ensure a wide diversity of cases from those submitted. Four cases were eventually chosen from South Africa (Rooibos Tea, Honeybush Tea, Karoo Lamb and Nguni hides) and two from Namibia (Kalahari Melon seed and Karakul pelts).

In the second phase of the project, capacity building workshops were conducted for the Rooibos, Honeybush tea and Nguni hides communities. These capacity building workshops constituted the first step towards conducting the case studies. It was, however, concluded in consultation with the industry that a GI was probably not the most appropriate option for the Nguni Hides case. As a result, this case study was abandoned. The Mohair industry

furthermore, showed a strong interest in exploring the potential of registering a geographical indication. As a result, Camdeboo Mohair was included as one of the case studies. The fact that Camdeboo Mohair carries a regional name and the existence of a strong code of conduct indicated strong similarities to the GI philosophy.
Instead of capacity building workshops, information meetings were conducted for the Karoo Lamb, the Kalahari melon seed oil and the Karakul pelt industries, in order to raise awareness on GIs and to prepare for the case studies.

The following phase of the project consisted of developing the case studies, the results of which are presented in section B. Based on initial workshops and meetings, different levels of engagement with the industries and communities were defined according to the interest actors expressed in exploring GI related processes. A decision was taken collectively between the research team and the different case study role players on how to articulate the research process and the actors' own interest in exploring GI issues. Where strong interest was expressed a 'GI committee' representing the industry was appointed, and supported by some of the research partners, to ensure the sharing of information between the research team and the industry role players and to explore the potential for implementing a GI. The main function of these committees was to complete the description of the product and to draft the code of conduct or specification. In the other cases, a member of the research team took the lead in preparing the product characteristics and became the main resource person for the corresponding industry. This was the result of either the presence of an existing IP regime or a very low level of organisation and structure within the industry.

The case study documentation process and exchanges with stakeholders provided insights that enabled the project to reflect industry realities. This constituted a strong information and experience base that was discussed and assessed in different meetings during the course of the project. Discussions based on the case studies were used to fuel the thinking in terms of a more applicable institutional and, in particular, legal framework. The legal dimension was developed through the course of the project to account for insights from the case studies and for changes in the legal framework.

A prominent meeting in this regard was the workshop with eleven international experts that provided a good representation of the different regions (Brazil, India and Europe) and international organisations (WTO, European Commission, WIPO, Swiss Intellectual Property Institute etc.). The meeting provided an important balance between researchers and practitioners. Local stakeholders from the Department of Trade and Industry, the National Agricultural Marketing Council, a conservation agency (Cape Nature) as well as journalists were also present. In this meeting, the experts were asked to reflect on interesting perspectives gained from the case studies according to:

- their experience in working with geographical indications;
- the potential of the case study to benefit from GI protection (identification of success factors or shortcomings);
- the potential of GIs as an appropriate tool for rural development in Southern Africa;
- the potential for biodiversity conservation; and

- the features of the institutional and/or legal framework for Southern Africa to capture the benefits of GI protection for the chosen products and ensure small-scale farmers' beneficiation.

This meeting was a key step in confronting the local situation and dynamics on the one hand and the national and international dimensions of the debate on the other hand.

1.3 Project insights

The project was built around understanding and supporting local dynamics at industry level, as captured through the case studies and involvement with the on-going political process involving GIs. As mentioned, the research program maintained strong links with the policy process through the involvement of government representatives as core partners that allowed for stimulation of the public debate on GIs. The project's involvement has been instrumental in moving the policy process forward. Notably, the drafters of the Intellectual Property Amendment Bill participated in the project's seminars, providing an opportunity for constructive interaction on the design of GI protection in South Africa. The research team drafted extensive comments on the draft legislation, based on research results from the project. The case studies selected will, furthermore, serve as pilot cases for testing the new legislative framework.

The Rooibos case has been particularly insightful and has enriched both the research process and political debate. It has led to a better understanding on questions such as the legal requirements for strong international recognition of GIs (in particular from the EU), capacity requirements at public level to assess GI applications and monitor and enforce their use as well as the level of public and private engagement and collective action required to pursue a meaningful GI strategy.

When we reflect on the process and results of the project, it is clear that the project was supported and enriched by regular engagement with the industries, a sense of trust between the research team and the industries, the different seminars that were held as well as through the different steering committees. This allowed for developing a proper participatory research process through regular reassessment and approaching and conducting the various case studies in different ways while getting insights from the set of local experiences. Building upon the variety of situations displayed by the cases, the project allowed for the characterization of different levels of industry trajectories with regard to quality based and IP collective strategies. Again, the research questions and approach were clearly enriched through the researchers' involvement in actual GI initiatives within the different industries. The project clearly documented and reinforced the initial statement regarding the diversity of traditional knowledge, indigenous resources and agro-food products based on local resources and the potential for adding value. For a full overview of the main activities and difficulties encountered during the project as well as a dissemination list see annexure 1.

The engagement with the different stakeholders at different levels and the accompanying local experiences, furthermore, contributed to the improved awareness and understanding of the potential of GIs for improving market access for resource poor farmers at industry, local organization and government level in Namibia and South Africa. It also facilitated the building of

a partnership between local organizations, research and government institutions as well as NGOs.

Many of the activities of the research team has continued beyond the conclusion of the project. This includes most notably the preparation of the Rooibos industry's application for registration of a GI in the EU under EU Regulation 510/2006. In various cases, GI related collective action dynamics at industry level have also led to spill over effects on related topics such as biodiversity, general quality management and marketing. This has illustrated the potential of GIs for local communities beyond its role as quality signal and name reservation.

Exploring the potential of GIs in Southern Africa and engaging with stakeholders at the different levels have, furthermore, emphasised a number of IP related issues that need to be further developed. This would include issues surrounding animal breeder rights, efficient mechanisms for benefit sharing and the potential for enhancing collective action at industry level through developing collective quality management strategies for many industries in Southern Africa. There is a clear need for further participatory research processes on how to empower local agro-food industries and farmers' organisation with regard to IP strategies and quality signalling.

2. SELECTION PROCESS AND CAPACITY BUILDING WORKSHOPS

2.1 Introduction

The project departed with a selection process in order to identify local products in both South Africa and Namibia which could potentially benefit from geographical indication protection. As mentioned, this first phase of the project was mainly exploratory in order to better comprehend the diversity of localized resources through an inventory of indigenous knowledge and resources which communities claim to be unique. The selection process was followed by a series of capacity building workshops aimed at better informing stakeholders of the selected industries of the need and options for protecting their intellectual property rights.

2.2 Selection process

Information was collected based on a two pages call for submission which was widely disseminated to consult a large audience (NGOs, government departments, farmers magazines, producer organizations etc.) and to invite people to submit potential case studies. This information was then organized based on a set of criteria designed to inform on the relevance and peculiarities of the chosen cases, as elaborated on below.

2.2.1 Presentation of the set of criteria

The following set of criteria was designed to account for both the success factors as well as the diversity of situations in which it is worth studying the potential for developing GIs. The success factors were identified after an extensive overview of the literature which was conducted as part of a Master Thesis (Grant, 2005). By modelling the criteria on these success factors, the project team sought to ensure that the chosen case studies have a real potential for being recognised and protected as GIs and for the relevant farmers to benefit from it. For purposes of the project, additional criteria were also designed to account for the potential diversity of situations across industries. The selection criteria included the following:

<u>Product specificity</u>
A first aspect to be considered is the ease with which a product can be defined and thereby differentiated from similar products. The importance of specificity in the success of a geographical indication derives from the need to precisely define a product in order to facilitate differentiation. It is important to establish the characteristics of the product that differentiate it from a similar product produced in another region (Sylvander & Lassaut, 1994). This is linked to the capacity to define the typicity of the product and its link to a particular ***terroir***.

The concept of *terroir* encompasses the belief that specific territories can comprise certain characteristics, which are due to a particular geographical environment with its inherent natural and human components. Scheffer and Sylvander (1997) define *terroir* as "*a homogenous geographical entity founded on natural and human factors where particular natural conditions conjugate with an original and ancient know-how*". According to Barjolle

et al (1998) a *terroir* consists *of* "*(1) a natural site, (2) a set of knowledge and human practices and (3) deep rooted traditions and cultural customs*".

Typicity is thus an intrinsic component of the product, rooted in an historical and geographical context specific to the region of origin. In determining a product's typicity one takes into consideration both aspects of the natural environment from where the product originates as well as any local *savoir faire.*

The existence of a link between a product and a *terroir* as reflected by its typicity is at the core of any geographical indication, contributing to the product specificity. More generally, the different aspects that can contribute to the product specificity are the geography, the production area, the production practices, the production system and specific species. These can all contribute to the uniqueness of the product.

Reputation

The importance of reputation is highlighted in the Article 22 of the TRIPS[2] agreement and in EU Council Regulation 510/2006 "…*where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin*." Reputation is determined by a product's historical link to the region, the product specificity and consumer perceptions. The symbiotic relationship between specificity and reputation is clear in that a product's specificity leads to its reputation, which in turn allows the benefits associated with specificity to transpire. Historical and cultural aspects are determining factors in the building of product reputation and should be taken into account as part of the criteria on reputation. Importantly, reputation can be determined from a local, national or international perspective.

Coordination and institutional arrangements

The geographically intertwined nature of geographical indications has certain implications for the coordination of origin labelled supply chains. As the Heath (2002) mentions, origin labelled products are very often characterized by a "*collective dimension in the sense that they are linked not only with the skills of many producers and/or processors but also with locally created public goods and with the history, habits and culture of the local community*". The reputation in geographical indications derives from the behaviour of a number of actors and becomes an asset shared by a network of firms (Raynaud & Valceschini, 1998). The more widespread the commitment to traditional production practices among producers in the area of production, the greater the impact of this investment in preserving the identity of the product and therefore the greater the collective value of the investment (Belletti, 2000). This requires the creation of collaborative networks through which many actors jointly manage the common product in the same way a single firm might do (Barjolle & Sylvander, 2002).

Although producers retain their economic and legal independence in the production and marketing of the common good, they are linked through their activities that result in a particular origin labelled product whose main characteristics are determined in the code of

[2] Trade Related Aspects of Intellectual Property Rights Agreement of 1994.

production. This peculiar manifestation of independence/interdependence between producers of the common good, each pursuing its own objectives, emphasizes the importance that origin labelled products stem from a collective process.

A further consideration is the existence or the potential for creating producer and/or processor organizations, referred to in the European context as “interprofessional bodies”. These bodies are considered to be coordinating institutions that can reduce transaction costs and convey information to all parties involved, thereby reducing uncertainty and preventing potential market failures. It is within these bodies that the product is defined and the production code agreed upon. An industry which lacks similar bodies will find it difficult to display the cohesion needed to successfully market a common product.

The importance of co-ordination has been reiterated throughout the research on typical products (Boccaletti, 1992; Canali, 1997; Barjolle & Chappuis, 2000). In this regard Chappuis and Sans (2000) have identified co-ordination in the supply chain as a prerequisite for the success of typical products and for the competitiveness of the firms producing and marketing it. Factors indicated by research as contributing to the need for co-ordination in origin labelled supply chains include the characteristics of the product in that they are highly differentiated and enjoy strong value-added, the seasonal nature of a number of origin labelled products and the location of some producers in regions where production costs may be higher. The most compelling reason seems to be the need to arrive, at the end of the processing stage, at a product with specific characteristics.

To account for this criterion, several aspects have to be considered:

- farmers' organisations
- representivity of organisations
- other organisations within the supply chain
- agreements with downstream actors
- agreements between commercial and emerging farmers
- existing trademark protection, either individual or collective
- plant breeder rights protection.

<u>Institutional support/driving organisation</u>

Products bearing a geographical name have several public good characteristics (as they are in essence public brands put at the disposal of private actors), which require the intervention and support of public and/or private institutions (Barjolle *et al.*, 1998). This support may take various forms including regulations, financial assistance with the procedure, advisory boards as well as financial support for individuals or applicant groups. In countries where geographical indications are a new concept, the State may need to provide support and advice to producers applying for registration. The most important role played by the State in protecting geographical indications however, is its role in facilitating protection by means of legislation thereby providing the instruments of institutional guarantee. Other actors may support the protection of GIs and must therefore be considered in the screening. These may include donor organisations and NGOs.

Characteristics of supply chain/ market attractiveness

Attractiveness of the market as a factor contributing to the success of a GI refers to the characteristics of the market in which the product is to be sold. To assess the attractiveness of the various markets, the following factors should be considered (Barjolle and Sylvander, 2002): size and growth potential of the market, structure of the partners downstream in the supply chain, barriers to entry in the market, margins realized in the past, economic stability of the market, intensity of competition, image of the sector and the region.

In addition to considering market attractiveness in order to ensure that the chosen products have the necessary market potential to render a GI beneficial, it is important to ensure a diversity of case studies with respect to differences in supply chains, in order to fully account for and understand the role of the market context and determinants for GI development. Different supply chains are likely to reflect different behaviours and interests, especially at retail and consumer level. The different supply chains are also likely to involve different dynamics in terms of quality.

Type of producers

It was nevertheless important to ensure that a significant proportion of emerging farmers participate in the production of the chosen case studies in order to explore the relevance of GIs for supporting rural development. Differences in terms of the ratio of emerging to commercial farmers and their relationships were also considered, as it was expected that this could potentially influence the capacity for undertaking collective action.

Environmental impact

It was decided that diversity in environmental issues should be included as a criterion in order to assess the potential of GIs to link small scale farmers to markets in a sustainable way. It furthermore, facilitates an exploration of the interactions between different actors and their objectives in negotiating the codes of practices and in specifying the characteristics of the product (link with organic production, biodiversity friendly labelling etc.). Different aspects of the environmental impacts and its management which need to be considered include:

- the sustainability of practices
- the impact on biodiversity
- erosion
- water protection
- animal welfare.

Geographical distribution of the communities within the country

This criterion was added to the list to ensure the representativeness of the case studies at the national level and therefore, their ability to cover the different geographical contexts of each country. This was considered a key component to investigating the potential and need for developing GIs in South Africa and Namibia.

2.2.2 The selection meeting and design of the grid

The selection process took place during a selection meeting based on the presentation of the potential cases and the fulfilment of a grid to inform and document the selection criteria for each potential case (see the grid below). The selection of the cases was based on two types of criteria: the first factor of the grid (product specificity) was used as a criterion for exclusion; the others served basically to ensure the widest possible diversity in the exploration of GI potential. This led to the following selected cases:

Case Study	**Major reason for choice**
Karakul pelt	Complex knowledge and skills
Kalahari melon seed	Indigenous and traditional knowledge
Nguni hide	Cultural significance
Karoo lamb	Reputation
Rooibos	'Emblematic', 'terroir' features

In addition to these five cases, the Western Cape Department of Agriculture agreed to conduct the Honeybush tea case study.

Case study	Product specificity[3]		Reputation	Driving group	Supply chain organisation	Market	Small Scale farmers	IPR	Environ-mental issues	Observations	GI interest**
	Final product characteristics	Resources and link to place*									
Kalahari Melon Seed	Centre of origin Community traded	Local know how	yes	CRIAA	Different women groups and organisations	Fair trade, expanding rapidly Local	yes	No			
Rooibos		Different *terroirs*	Wide	SARC EMG	Dominant player in industry	National and export	2 small scale communities	Trade marks	Biodiversity and sustain-ability	High growth of market and expansion	Name reservation marketing tool, rural development
Nabbas - Kalahari mushrooms (truffles)	'Mystic plant' Delicacy			IPPT and communities		Local and Germany		No			
Honeybush	Very aromatic	Highly localised	SA Herbal tea Confusion Rooibos	SAHTA	SAHTA	National and export Limited size	Community involvement	Trade marks	Sustainable harvesting	High growth Research undergoing	Name reservation, biodiversity conservation
Hoodia				Hoodia working group	Not organised		Communal farms	Patent		No product	
Water blommetjies	Unique Boland	Boland culture		No representative org.	Direct sell, hawkers No coordination	Local Export	Not much				Marketing tool, quality assurance, coordination
Klein Karoo Ostrich	Feather, leather, meat Bumps on skin	No clear link that binds the product to the region either by way of the unique natural environ-ment or local savoir faire	Identity of farmers in Little Karoo Klein Karoo cooperative associated with ostrich	Ostrich Business Chamber	Ostrich Business Chamber Klein Karoo Cooperative (Pty) Ltd	National International	Limited	Blue ostrich trademark: skin, meat Fast food with Karoo name	Succulent Karoo: Biodiversity hotspot	IP route: brand as a key label with a reputation: GI unnecessary competition	

3. The discussion on this dimension was based on the understanding that GIs are not only built on product specific characteristics but also on the link to the territory, and on the technical aspects and practices embedded within culture (transcription of culture into ways of growing and processing crops or livestock). A combination of specific resources and know-how in a particular environment leads to GIs being geographically bound and non transferable. GIs rely on a shared skills system involving farmers, processors, traders and in some instances inputs suppliers, which contribute to quality.

Bonsmara Cattle breed	Breed Stringent selection process Land race			Bonsmara Cattle Breeder association	?	National, international		Brand, logo, Patent		Breed that is marketed	
Namaqua Afrikaner Sheep breed	Indigenous breed Hardiness and fat tails	Genetic resource		Dept. of Agric. demanding	?	None	?	Public registration		Processing?	Biodiversity Traditional knowledge
Gellaper sheep	Non fat tail			Project						New breed, nuclear flock being established	
Nguni and Damara Hides	Skin Hide pattern Adapted to environment	Complex cultural association	African fashion	Dept of Agric. demanding	?	Low but high price	?	Studbook registering		No specific processing	Name reservation
Karakul Pelts	Century of use Flat curl Sun dried	Harshness of env.ment Farming practices uniform	Black diamond, Black rose, Desert rose		Karakul breeder society	Auction Export	Focus of government	Swakhara brand			
Kalahari Red Goat Breed	Breed Red colour Land race			Breed developer and club		Local National		Breed registration		Prod. across country	
Karoo Lamb	Taste, flavour	Karoo shrubs: specific flavour	Specific taste perception 'Karoo lamb' country	No representa-tive org°	Just Lamb-Woolworths +??	National Important demand under this image	Northern Western Cape: coloured	Trademark?	Karoo very sensitive to overstock	Name has a market value	Quality assurance and name reservation, marketing tool
Umleqwa chicken	Strong rural indigenous chicken Xhosa meaning	Cultural and traditional ceremonies Eastern Cape		No representative org°	Iqala Coop and Iqala product	Locally		No			

2.3 Capacity building workshops

As mentioned, the selection process was followed by a series of capacity building workshops. The purpose of these workshops was to better inform stakeholders in the selected industries of options for protecting their intellectual property rights.

2.3.1 Workshops held for the Rooibos, Honeybush tea and Nguni hide industries

Capacity building workshops were conducted as part of the Rooibos, Honeybush tea and Nguni hide case studies. As far as possible, all stakeholders involved in the supply chain of the chosen products were represented. The participants included producers, processors, traders, representatives of supporting institutions including Government, NGOs etc. Emphasis was placed on the representativeness of the participants. However, it was agreed upon that in cases such as Rooibos where the different stakeholders had a very different level of education and understanding of the issues at hand, the targeted group would be restricted to small-scale farmers.

The methodology for conducting the capacity building workshops was based on the handbook on "Issues and Options for traditional knowledge holders in protecting their intellectual property and maintaining biological diversity" developed by the American Association for the Advancement of Science. This was adapted to the Southern African context and resulted in a facilitator guidebook called "Rights, Resources, Markets and Development – A South African/Namibian farmer's guide to using intellectual property". The latter handbook was disseminated during the capacity building workshops and can be viewed as annexure 2.

The workshops commenced with introductory activities followed by an exercise which established participants' existing knowledge of intellectual property rights. For this exercise, posters of common examples of IP were placed around the room (e.g. Coca-Cola, Nike, South African wine, the cover of the book 'Cry the Beloved Country' and the South African vacuum cleaner Kreepy Krauly). Small groups responded to a series of questions aimed at exploring IP protection such as patents, trademarks, trade secrets, registered designs, geographical indications and copyright.

Following this exercise, participants were asked to explore their own resource and the knowledge associated with its production. In small groups, the participants examined various dimensions of the product and developed a final group consensus on 'what the product is'. Next, participants developed a timeline for the production process. The groups were allocated according to expertise and experience. One group also developed a geographical map detailing the area in which the resource is produced and the geographical features which make this terrain distinct.

Following the timeline and geographical descriptions, stakeholders were identified who then defined their values and goals associated with the resource. Using the IP tools developed for these capacity building workshops, the values and goals of the community were cross-referenced with available IP options in Southern Africa. The group then engaged in a discussion on how the existing IP options could be utilized to promote their values and goals

with regards to their knowledge and resource. Summaries of the information and discussions which emerged during the workshops are provided in annexure 3.

2.3.2 Kalahari melon seed oil stakeholders' meeting and consultation on GIs

In the case of the Kalahari melon seed (KMS) oil, the National Botanical Research Institute and CRIAA SA-DC organised a stakeholders workshop as part of the Indigenous Plant Task Team's (IPPT) KMS oil development project as well as this DURAS project. The workshop was attended by 30 participants representing a cross-section of KMS producers, KMS oil processors, NGO service providers, Namibia National Farmers' Union, IPTT Eco-Regional Satellite Centres, Ministry of Agriculture, Water, Forestry and Agricultural extension services (DEES) and other relevant directorates and ministries (Directorate of Forestry, Ministry of Trade and Industry, Ministry of Environment and Tourism), from the Northern and Central Regions (i.e. Omusati, Oshana, Ohangwena, Oshikoto) as well as from the Kavango and Caprivi regions.

The workshop had three objectives, based on which presentations and discussions were organised:

- To facilitate the meeting of stakeholders in order to examine and better understand the emerging KMS oil industry in Namibia,
- To enhance the understanding among the stakeholders of GIs as a potential marketing tool, and
- To explore the organisational arrangements within the industry, with a view on the possible establishment of an industry forum.

Participants were briefed on and discussed the emerging KMS oil industry and value chain in Namibia and the SADC Region as well as the reputation and quality of the product on which the niche marketing is based. The workshop agreed that KMS represented an interesting opportunity for small-holder farmers to diversify "cash crop" production and marketing, without compromising household food security. Elements of an action plan to promote and increase the supply of KMS, whilst maintaining the quality and reputation of the product, were debated and outlined. Information dissemination was seen as pivotal to the expansion of supply. Stakeholders committed to immediately start implementing the decisions with the help of further facilitative support, despite uncertainties regarding the year's agricultural harvest.

Stakeholders were briefed about GIs as an IP option for enhancing market access and protection. It was explained that GIs have the potential to give a product a unique identity in high-value niche markets based on reputation for quality linked to a specific geographical area of production, historical know-how of producers and a traceable and environmentally friendly fair-trade value chain. GIs can thus be used as a tool to protect the product against unfair competition and usurpation in international markets. However, the participants were also informed about the conditions and requirements for registering and managing a GI in the Namibian legal context. Stakeholders grasped the difficulties and time needed to progress on the GI option but agreed that it was worthwhile pursuing with the support of the Namibian Government. In particular, stakeholders agreed on the need for a KMS

industry forum and a “code of practice” to guide the industry towards the required quality and reputation.

In the end, the role, form of organisation and composition of a representative KMS industry body were constructively debated but not entirely decided upon. The participants agreed that the industry body should comprise representatives from producers and processors, as well as other public and private stakeholders. The workshop concluded that stakeholders should reflect on the discussion and that the matter will be taken further at a follow-up meeting.

References

Barjolle D and Chappuis JM (2000). Transaction costs and artisinal food products. Proceedings of the Annual Conference of ISNIE (International Society for New Institutional Economics), Tuebingen (D) 22-24 September.

Barjolle D, Boisseaux S and Dufour M. (1998). Le lien au terroir. Bilan des travaux de recherché. Institute of Agricultural Economics, Lausanne.

Barjolle D and Sylvander, B (2002). Some factors of success for “origin labelled products” in Agro-food supply chains in Europe: Market, Internal Resources and Institutions. *Économies et Sociétés*, 25(9-10): 1441.

Beletti G (2000). Origin labelled products, reputation and heterogeneity of firms. In: The socio-economics of origin labelled products in agro-food supply chains: spatial, institutional and co-ordination aspects. Eds: Sylvander B, Barjolle D & Arfini F. (2000). Series Actes et Communications, 17. INRA, Paris.

Boccaletti S (1992). Signaling Quality of Food Products with Designation of Origin: Advantages and Limitations.” Mimeo, Istitutodi Economia Agro-alimentare, Universita Cattolica del S. Couroe, Piacenza, Italy.

Canali G (1997). The Evolution of Food Distribution Systems and its Implications on the Marketing of Typical Products. Typical and traditional productions: Rural Effects and Agro-industrial Problems, 52nd EAAE Seminar, 19-21 June, Parma.

Chappuis JM and Sans P. (2000). Actors coordination: Governance structures and institutions in supply chains of protected designation of origin. In: The socio-economics of origin labelled products in agro-food supply chains: spatial, institutional and co-ordination aspects. Eds: Sylvander B, Barjolle D & Arfini F. (2000). Series Actes et Communications, 17(1). INRA, Paris.

Heath C (2002). The protection of geographical indications. Dolphins Project Work paper 6 meeting: Policy evaluation, 16-17th September, Geneva, Switzerland.

Grant C (2005). Geographical Indications and Agricultural Products: Investigating their relevance in a South African context. Masters Thesis, Univeristy of Pretoria.

Raynaud E and Valceschini E (1998). Competition regulation against quality policy: The label rouge in the French poultry industry. In: Typical and Traditional Products: Rural Effect and Agro-industrial Problems. Eds.: Arfini, F and Mora, C. (1998). 52nd EAAE Seminar Proceedings, Parma, June 19-21.

Scheffer S and Sylvander B (1997). The effects of institutional change on qualification processes: a survey at the French Institute for denomination of origin. In: Typical and Traditional Products: Rural Effect and Agro-industrial Problems. Eds.: Arfini, F and Mora, C. (1998). 52nd EAAE Seminar Proceedings, Parma, June 19-21.

Sylvander B and Lassaut B (1994). L'enjeu de la qualite sur les marches des produits agro-alimentaires. In: La qualité des produits agroalimentaires : politique, incitations, gestion et contrôle. Ed: Multon, JL. (1994). Lavoisier, Paris.

3. SYNOPSIS OF THE LEGAL FRAMEWORK PROTECTING GEOGRAPHICAL INDICATIONS IN SOUTHERN AFRICA

3.1 Introduction

The signing of the Trade Related Intellectual Property Rights (TRIPS) Agreement placed GIs in the international arena for the first time. In contrast to Southern European countries, South Africa does not have a long history of GI protection. This section traces the South African legislative response to the obligations created under the TRIPS agreement, providing an exposition of the legislative framework within which GIs are protected in the South African context. It proceeds by way of a two tiered approach, first addressing protection at international level followed by an analysis of protection at national level. It documents the steps taken towards TRIPS compliancy and illustrates the practical implications of the current legal framework by analysing the legal strategies available to the Rooibos industry. It concludes with projections on the future of GI protection in South Africa. The legal synopsis provided in this section forms a necessary backdrop to the further analysis, as it provides the framework within which GIs are facilitated.

Due to historical events, legislative developments in Namibia are to a large extent a duplication of South African laws. The discussion is thus limited to an exposition of the South African situation. The only notable exception being the South African proposed IP Amendment Bill, as discussed in the final section.

3.2 Protection at international level

International protection for GIs consists in principle of four multilateral agreements[4], each with a varying member base. These international agreements do not have a uniform approach to GI protection as some protect against confusing or misleading use and others have established a system of proprietary rights. Of these agreements, South Africa holds membership to the Paris Convention and the TRIPS agreement, and is thus subject and entitled to the rights and obligations provided there under.

3.2.1 Paris Convention for the Protection of Industrial Property of 1883

The beginning of international protection of GIs dates back to the conclusion of the Paris Convention for the Protection of Industrial Property in 1883 (Paris Convention), which included protection for “indications of source” and “appellations of origin” (Conrad, 1996). However, protection for GIs under the Convention is very limited.

The Convention originally provided a qualified prohibition on false indications of origin only in cases where the false indication of origin was joined with a fictitious trade name or was used with fraudulent intent. This requirement of fraudulent intent was attacked as being too

[4] Paris Convention for the Protection of Industrial Property of 1883, Madrid Agreement for the Repression of False or Deceptive Indications of Source on Goods of 1891, The Lisbon Agreement for the Protection of Appellations of Origin and their International Registration of 1958 and the TRIPS Agreement of 1994.

narrow and at the 1958 Lisbon Revision Conference it was proposed that section 10 prohibit importation of "*any product which bears directly or indirectly a false or misleading indication of origin*...". The proposal was rejected due to an objection by South Africa that the term "misleading" was vague and uncertain as it would be open to interpretation by national courts (Bendekgey & Mead, 1992). However, the prohibition was expanded to the present provisions of section 10 which requires the seizure or prohibition of importation of goods "*in cases of direct or indirect use of a false indication of the source of the goods or the identity of the producer, manufacturer or merchant.*" Fraudulent intent is thus not presently required in terms of section 10. Also, at the 1958 Conference, a new section 10 *bis* was proposed which included a prohibition against "[*I*]*ndications or allegations, the use of which in the course of trade is liable to mislead the public as to the nature, the origin, the manufacturing process, the characteristics, the suitability for their purpose or the quantity of the goods*."

The United States vetoed the word "origin" and it was accordingly removed. As presently worded, the Paris Convention thus requires each signatory nation to prohibit the importation of goods which bear a false indication of source. The present prohibition in section 10 *bis* of "*liable to mislead*" indications does not apply to misleading GIs. As such, the Convention does not provide protection in cases where the indication is used in translated form or accompanied by terms such as "kind", "type", or when it is deceptive, *i.e.* likely to mislead the consumer (OECD, 2000). The Paris Convention thus only prohibits the importation of goods containing false GIs but is not applicable to indications that are merely misleading (Conrad, 1996). Consequently, the importation of goods marked with a GI that might be liable to mislead without rising to the level of being false, need not be protected by the Paris Convention (Benson, 1978). The decision on whether a representation is false is left to the Member country (OECD, 2000). Sanctions provided for include seizure upon importation, prohibition of importation or seizure within the country (section 9). This seizure is executed at the request of the public prosecutor, or any other competent authority or interested party (WIPO, 2002). Originally signed by eleven countries, the Convention now has 169 Members.

The Agreement does not afford significant protection to GIs. The Uruguay Road of the General Agreement on Tariffs and Trade (GATT) provided an opportunity to include GIs in an international agreement that would guarantee protection to all WTO Member countries. The following section will discuss the most important changes TRIPS brought about in the field of international protection for GIs. The purpose of this section is not to provide a definitive guide to the TRIPS agreement but rather to provide an outline of the extent of South Africa's international obligations with respect to GIs.

3.2.2 Trade Related Aspects of Intellectual Property Rights ("TRIPS") Agreement of 1994

Part two (section 3) of the TRIPS agreement deals with the provisions relating to GIs.

GIs are defined as:

> " *indications that identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristics of the good is essentially attributable to its geographical origin*".

By defining GIs, the TRIPS agreement obliges Members to respect and protect names falling within its ambit at national level according to the requirements set out in sections 22, 23 and 24 (OECD, 2000). Table 3.1 provides a layout of these provisions followed by a short discussion on each.

Table 3.1: An outline of the TRIPS provisions relating to GIs

Field	Section 22	Section 23	Section 24
Definition of subject matter	Section 22.1: defines the concept "geographical indication"	-	-
Basic Protection	Section 22.2-22.4: sets out the general standard of protection that applies to all products.	-	-
Additional Protection	-	Section 23: Sets out the additional protection available to GIs indications of wine and spirits products.	-
Exceptions	-	-	Section 24.3-24.9: Provides for exceptions to obligations.
Further negotiations	-	-	Section 24.1-24.2: Outlines provisions for future negotiations.

Source: Adapted from Rangnekar (2003).

Section 22

After defining GIs, section 22 continues to state that:

> "*Members shall provide the legal means for interested parties to prevent (a) […] the use of any means […] which misleads the public as to the geographical origin of the good […] or (b) any use which constitutes an act of unfair competition […]*".

Section 22 pertains to the general level of protection afforded all agricultural products and goods with section 22(2)(a) aimed at consumer protection and section 22(2)(b) aimed at protecting producers. Two requirements must be met in order to constitute a violation

(Conrad, 1996). Firstly, there needs to be a geographically descriptive indication on a good and secondly, this representation should be false or misleading. This section thus permits use of a GI as long as the true origin of the product is indicated or if used in conjunction with words such as "type" and "like." The only requirement is that such use must not be "misleading" and should not constitute an "act of unfair competition" (Conrad, 1996). Under this section, whether a name is misleading or not is judged according to the perception of the general public in the country where protection is sought (Conrad, 1996). This means that if the public in the country where protection is sought regards a GI as generic (i.e. indicative of a product not a place) there can be no question of misconception. Use of such indication would thus not be considered misleading under section 22 and would consequently not be prohibited. As long as public perception of a name is determinative for protection, foreign products are likely to be protected to a lesser degree than domestic products. In this respect, protection follows the system introduced by the Madrid Agreement.

Section 22(2) is supplemented by section 22(3) and 22(4). Section 22(3) makes provision for the refusal or invalidation of trademarks which contain or consist of a GI if the use of the GI in the trademark misleads the public as to the true place of origin of the product. Section 22(4) stipulates that the protection under Section 22(1) to 22(3) must also be made available in respect of the use of deceptive GIs i.e. GIs that are literally true, although they falsely represent to the public that the goods on which they are used originate in a different territory (WIPO, 2002).

Section 23

Section 23 provides additional protection for GIs of wine and spirits in cases where they are used to identify wine and spirits not originating in the place indicated by the GI. This hierarchical nature of protection is the most distinctive feature of the TRIPS provisions relating to GIs.

Section 23 stipulates that:

> "*Each Member shall provide the legal means for interested parties to prevent use of a geographical indication identifying wines for wines not originating in the place indicated by the geographical indication in question […] even where the true origin of the goods is indicated or the geographical indication is used in translation or accompanied by expressions such as 'kind', 'type', 'style', 'imitation' or the like*".

The protection afforded under section 23 is thus independent from any requirement of deception or unfair competition and more comprehensive than under section 22, as use of a geographical indication for wine or spirits is prohibited regardless of whether the true origin is indicated or whether it is used in conjunction with words such as "kind" and "type" (Rangnekar, 2003). It seems that this section's *raison d'etre* lies in the prevention of the degeneration of GIs into generic terms. Although section 23 cannot claim back terms that have already become generic, it seems to implement a fairly effective method for preventing further GIs from becoming generic terms (Conrad, 1996).

In addition, section 23(2) provides for the refusal or invalidation of trademarks that contain or consist of GIs for wine and spirits on wine and spirits products not originating from the indicated origin (WIPO, 2002). Other than under section 22, this protection is available regardless of whether the public is misled. Both section 22 and 23 should be read together with the exceptions provided for in section 24.

Section 24

Section 24 contains a number of exceptions to the obligations under section 22 and 23 which can be broadly divided into three categories, namely continued and similar use of GIs for wine and spirits, prior good faith trademark rights and generic designations (WIPO, 2002). The provisions of Section 24 were largely the result of a failure to reach agreement on the means by which and the level of protection of GIs. As a result, a built-in-agenda for future negotiations were agreed upon. The first provision for further negotiations can be found under section 23(4) in terms of which Members have to agree to engage in negotiations to establish an international register for notification and registration for GIs for wines and spirits (Rangnekar, 2003). Importantly, the obligation created is for negotiations and not to establish a system of notification and registration. In this regard, the European Union has tabled a proposal based on a register for GIs administered by the WTO Secretariat. The United States responded to the European Union's proposal with a proposal founded on the law of trademarks, the United States' system of protection. These divergent proposals have led to a debate at international law on whether geographical indications should be protected under a *sui generis* system or whether they are sufficiently protected under trade mark laws. The second provision related to future negotiations is section 24(1) which obliges Members to enter into negotiations aimed at increasing the protection of GIs under section 23.

In conclusion, TRIPS's contribution to the international protection of GIs can be summarized as follows (adapted from Conrad, 1996):

- The provisions relating to enforcement promise that protection will be more effective than under any of the previous agreements;

- Although border measures are familiar from the Paris Convention, Madrid Agreement and Lisbon Agreement, the inclusion of substantive measures and the opportunity for each Member to police other Member's national laws to the extent provided by TRIPS is completely new;

- The number of Member States is far greater than that of any previous agreement on the protection of GIs.

3.2.3 EU Regulation No. 510/2006

The European Union adopted EU Regulation No. 2081/92 in 1992 to protect GIs and designations of origin for agricultural products and foodstuffs. The Regulation effectively created a *sui generis* system of protection for GIs. Of importance in the South African context, the Regulation provided that GIs for products originating in a territory outside the European Union may only be registered, and thus protected, if the government in whose

territory the GI is located adopts a system for GI protection that is equivalent to the European Union's system and provides reciprocal protection to GIs from the EU. The Regulation required that the foreign GI's government accepts an application for protection under the Regulation, examine it for consistency with the EU's regulations and then forward the application to the EU, either arguing for or against its acceptance. The Regulation furthermore, required the foreign GI's government to provide and monitor the necessary inspection structures used to ensure the product meets the European regulatory standards.

As a result of the Regulation, foreign GIs could only be registered in the European Union, if the government in whose territory the GI is located adopted an equivalent system of protection for GIs. This meant that foreign GIs whose governments do not provide a system of equivalent protection were worse off than European GIs whose governments, in terms of EU Regulations, were forced to implement such a system. Based on the equivalence and reciprocity provisions of EC Regulation 2081/92, the United States claimed that the Regulation resulted in foreign GI products not having the same access to the protection and benefits of EC Regulation 2081/92, and that the Regulation therefore contravened the National Treatment principle under International Law.

The WTO Panel held that the conditions for registration under EC Regulation 2081/92 constituted "less favourable treatment" of foreign GI products in that it discriminates against foreign products and is therefore, in violation of the National Treatment principle. It noted that the European Union never proved that cooperation by governments is necessary to ensure that the GI meets the requirements. It further found that EU could not explain why the applicant, who is most knowledgeable about the particular GI, could not provide the evidence required to meet European Union standards. The Panel furthermore found that the requirement for government monitored inspection structures discriminated against foreign nationals, as there is no obligation on foreign governments to establish, approve and monitor inspection structures for GIs.

In view of these findings, the Panel recommended that the EU amend EC Regulation 2081/92 to bring it in line with the EU's obligations under GATT and TRIPS. It specifically recommended that the EU amend its provisions relating to the registration of foreign GIs.

In response to the WTO Panel Ruling, the Agricultural Council of the European Community adopted EC Regulation 510/2006 on the Protection of Geographical Indications and Designations of Origin for Agricultural Products and Foodstuffs. The new regulation replaced EC Regulation 2081/92 and came into operation on 31 March 2006.

In terms of the new regulation, the protection available for EU GIs is extended to foreign GIs, irrespective of whether the foreign government affords an equivalent and reciprocal level of protection to EU GIs. Foreign GI producers may now furthermore apply directly to the Commission, rather than having to go via its own national government. The provision requiring public certification bodies has been amended to allow for private certification bodies, provided they are accredited by 1 May 2010 in accordance with the EU's requirements for product certification systems. The proviso to qualifying for this protection is, however, that the foreign GI still first needs to be protected domestically. South African GIs would thus, in order to be recognised as a GI under EU Regulation 510/2006, first need

to be protected under South African national laws. Importantly, however, as an equivalent and reciprocal level of protection is no longer required it may now be sufficient if the foreign GI is protected domestically under trade mark law and not necessarily under an equivalent GI registration system.

3.3 Protection at national level

Despite growing importance at international level, the term GI has not *per se* been introduced into South African legislation and protection is provided only by means of piecemeal laws of general application, under both common and statutory law.

3.3.1 Common law measures for protecting GIs in South Africa

Unlawful competition

The delict unlawful competition in South African law is derived from the provisions of the *lex Aquilia*. In seeking protection for a GI under the action unlawful competition, the plaintiff will have to establish that there was an unlawful act and that such act was attributable to the fault of the wrongdoer (Van Heerden & Neethling, 1995). Such conduct must result in or constitute a false representation which causes, or which is likely to cause confusion or deception of a substantial number of consumers. In addition, this false representation must result in financial loss to the plaintiff. A serious shortcoming of this action is, however, that in order for someone to have *locus standi in iudicio* in an action for unlawful competition he/she has to trade or have business activity in South Africa since someone who does not is not considered a competitor. This severely limits the scope of the protection.

Passing off

The action of passing off in the South African law can be defined as (*Capital Estate and General Agencies (Pty) Ltd and Other v Holiday Inns Inc and Others*, 1977):

> "*The wrong known as passing off consists in a representation by one person that his business (or merchandise, as the case may be) is that of another, or that it is associated with that of another and in order to determine whether a representation amounts to a passing off, one enquires whether there is a reasonable likelihood that members of the public may be confused into believing that the business of one is, or is connected with, that of another*."

The right infringed by unlawful competition is the right to attract custom which can involve the right to an existing goodwill (Webster and Page, 1986). The wrong of passing off is a species of unlawful competition which specifically involves infringement of another's rights in an existing goodwill (*Draper v Trist & Tribestos Brake Lining Ltd,* 1939). Passing off thus protects a right in the reputation or goodwill of a name, mark or symbol. Goodwill as the subject of a proprietary right is incapable of subsisting by itself. It has no independent existence apart from the business to which it is attached (Webster and Page, 1986). This raises the issue that protection is only afforded under an action for passing off whilst business is conducted. In the case of *Kean v McGivan* (1982) it was said of passing off that:

"*The property which is said to be injured in that situation is not the name or description of the goods but the right to the goodwill of the business which results from the particular commercial activity. Therefore the courts do not in the general interfere to protect a non trader. I hasten to add that of course the word "trade" is widely interpreted to include persons engaged in a professional, artistic or literary occupation*."

It is thus clear that passing off provides no recourse to persons not engaged in a business. In addition, it is necessary in order to establish the existence of goodwill, to show that it is associated in the minds of the public with the business in question (Webster and Page, 1986). This reputation must extend to a substantial number of members of the public (*John Craig (Pty) Ltd v Dupa Clothing Industries (Pty) Ltd*, 1977). The extent of the reputation is limited geographically to the territory in which it is known as indicative of the goods, services or business in question (*Greaterman's stores Ltd v Marks & Spencer (SR) Ltd*, 1963).

3.3.2 Protection under statutory law

There are no statutory provisions which expressly protect the unauthorized use or registration of GIs.

Trade Practices Act of 1976

The Trade Practices Act stipulates that (Section 9.b):

> *"[N]o person shall in connection with the sale of goods, directly or indirectly make any statement or communication or give any misleading description or indication in material respects in respect of the nature, properties, advantages or uses of such goods..."*

The purpose of the Act was to protect members of the public from being misled. In addition, the Act serves to protect traders or producers of goods from actions of competitors who might mislead consumers into rather purchasing their goods. This section thus gives *locus standi* to traders and producers of goods against an offending competitor. In the case of *Long John International Ltd* (1990) the Court applied Section 9(b) of the Trade Practices Act to a case where the defendant was producing, distributing and selling "Ben Nevis Scotch Whisky Liqueur". The applicant was seeking an interdict on the ground that the respondent was falsely representing to the public that "Ben Nevis" was a Scotch whisky. It was argued that such a misrepresentation arose out of all the surrounding circumstances which bore upon the interpretation of the label and get-up. It was held that as a result of the nature and get-up of the product, the product had been misrepresented as a Scotch whisky as a result of which a substantial number of members of the public could be confused into thinking it was a Scotch whisky. The respondents were consequently found guilty of contravening section 9(b) of the Trade Practices Act. This Act therefore provides some form of protection to GIs in that no person is allowed to make false representations as to the properties or nature of a good. As a result the legitimate users of a GI could institute action under this Act if, for

example, someone represents his product as having characteristics similar to a well known GI.

Liquor Products Act 60 of 1989

This Act defines liquor products (which includes wine and spirits) and sets out the requirements for each liquor product. It continues to state that any person is prohibited from (section 12(1)):

> *"[U]sing any name, word, expression, reference, particulars or indications in any manner, either by itself or in conjunction with any other verbal, written, printed, illustrated or visual material, in connection with the sale of a liquor product, in a manner which conveys or creates, or is likely to create, a false or misleading impression as to the nature, substance, quality, composition or other properties, or the class, cultivar, origin, age, identity, or manner or place of production of that liquor product*."

The Wine of Origin Scheme has been created under the Liquor Products Act. This scheme is administered by the Wine and Spirits Board and defines and demarcates areas of production (regions, districts, wards and estates). It further specifies permissible indications which may or may not appear on labeling. Since it has final approval of all wine labels, it can in this manner prohibit any reference to GIs which appear on such labels and which are either not accurate or which have not been approved by the Wine and Spirits Board as formed under this Act or which do not comply with TRIPS.

Merchandise Marks Act 17 of 1941

The Merchandise Marks Act prohibits the application of false trade descriptions to goods and the sale of goods bearing false trade descriptions. It provides that any person who applies any false trade description to goods shall be guilty of an offence (Section 6(1)). It also stipulates that a person who sells any goods bearing a false trade description shall be guilty of an offence (Section 7). "Trade description" and "false trade description" are defined as follow (section 1):

> "*Trade description means any description, statement or other indication, direct or indirect, as to the number, quality, measure, gauge or weight of any goods, or as to the name of the manufacturer or producer or as to the place or country in which any goods were made or produced, or as to the mode of manufacturing or producing any goods or as to the material of which any goods consists or as to any goods being the subject of an existing patent, privilege or copyright and includes any figure, word or mark which, according the custom of the trade, is commonly taken to be an indication of any of the aforementioned matters*."
>
> "*False trade description means any trade description, whether or not it consists of or includes a trade mark or part of a trademark which is false in a material respect as regards the goods to which it is applied and includes every alteration of a trade*

description, whether by way of addition, effacement or otherwise, if that alteration makes the description false in a material respect."

Trade descriptions therefore include indications as to the place or country in which goods were made or produced and could thus provide possible recourse for GI infringements.

Agricultural Products Standards Act 119 of 1990

Section 6 of this Act provides that the Minister of Agriculture may, taking into account South Africa's international obligations, prohibit the use of a specified geographical or other name or term in connection with the sale or export of a specified product. Such prohibition applies even where the geographical name is used with an indication of the true origin of the product, or is used in translation, or is used together with words such as "kind", "type", "style", "imitation" or similar words. This provision accords with section 23.1 of TRIPS and should this protection be invoked by the Minister, it would provide for the higher level of protection as envisaged under section 23 of TRIPS.

Trade Marks Act 194 of 1993

The general condition for registrability of a trade mark under the Trade Marks Act is that it should be capable of distinguishing (either inherently or through use) the goods or services in respect of which registration is sought from the goods or services of another person. As such, generic or descriptive terms are incapable of registration in the absence of proof that they have acquired distinctiveness through use (in which case it will no longer be use of the word in its geographical context). The important issue is thus whether the inclusion of the geographical term in a trademark connotes geographical origin in the mind of the consumer, in which case it has to be disclaimed.

Should a GI be irregularly registered as a trade mark, it will be possible for aggrieved parties to object to such registration and institute expungement proceedings on the grounds provided for under section 10. This section of the Act deals with unregistrable marks and specifically states that *"[a] sign or an indication which may serve, in trade, to designate the kind, quality, quantity, intended purpose, value and geographical origin of a product*" shall not be capable of registration. Furthermore, sections 10(12) and section 10(13) provide respectively that a mark which is "*inherently deceptive*" and *"[…] would be likely to cause deception or confusion*" shall be unregistrable. This recourse is likely to prove useful in the South African context where various individual trade marks incorporating GIs have been applied for or registered without disclaimers.

Despite the general prohibition against registration of GIs as individual trade marks, the Act provides for the possibility of protecting these terms as collective or certification trade marks. Section 43 defines collective trade marks as "*marks capable of distinguishing in the course of trade, goods and services of persons who are members of any association from goods or services of persons who are not members thereof*". Section 43 (2) specifically states that a "*geographical name or other indication of origin*" may be registered as a collective mark. This effectively overrides the prohibition in section 10(2)(b) against registration of a geographical name as a trademark. Rules governing the registration of a collective

trademark must specify the person authorized to use the mark, the conditions of membership of the association and, where applicable, the conditions of use of the mark including any sanctions against misuse. Registration as a collective mark takes place in the name of the association as the proprietor of the mark.

Section 42 provides for registration of certification trade marks and states that "*a mark capable of distinguishing, in the course of trade, goods or services certified by any person in respect of […] geographical origin [...] from goods or services not so certified shall […] be registrable as a certification trade mark in respect of […] such goods or services*". In the case of a certification mark, it is required that the person in whose name the mark is registered does not trade in the goods or services in respect of which the mark is registered. Importantly, the application of certification trade marks for protection of GIs is limited to GIs which do not actually consist of geographical place names, as no exception is created for registration of geographical names (which are by nature descriptive) as is under section 43(2).

3.4 Trips compliancy

As a founding member of the WTO, South Africa must comply with the minimum requirements for the protection and enforcement of intellectual property rights, as provided for in the TRIPS agreement. The TRIPS agreement does not provide a specific system of protection and merely requires that members provide the "legal means" to prevent the misleading or unfair use of a GI. As such, Members are required to adopt national legislation and regulations in order to implement the rules laid down as minimum standards in the TRIPS provisions.

The question arises as to what "legal means" WTO members have to put in place for the protection of GIs domestically. Different countries have adopted different approaches. Of these, the main methods of protection include: (a) consumer protection and unfair competition laws, (b) trade mark registration systems, (c) administrative schemes of protection and (d) *sui generis* protection for GIs. As mentioned, there is no specific law or register protecting GIs. Instead, South Africa's compliancy is based on a combination of consumer protection and unfair competition laws, its trade marks registration system and an administrative scheme for the protection of its GIs for wine.

Under South African trade mark law, registered trade marks (including registered certification and collective trade marks) are protected against use of identical or confusingly similar marks in respect of the goods for which they are registered, or goods which are so similar that use of an identical or confusingly similar mark could lead to deception or confusion (sections 34(1)(a) and (b)). In addition, well known registered trade marks are protected against dilution in that no persons may use identical or similar marks in respect of any goods or services, where such use is likely to take unfair advantage of or be detrimental to the distinctive character and reputation of the well known mark (section 34(1)(c). This dilution provision applies even where there is no deception or confusion. In the event that the GI is a well known mark, it will thus be protected against use on any goods or services, regardless of the absence of deception or confusion, provided unfair advantage is not taken of the GI. Registering a GI as a certification or collective trade mark consequently gives far

reaching protection to the GI in that neither an identical nor a confusingly similar mark may be used in respect of goods identical or similar to the goods for which it is registered. Registered trade marks in South Africa therefore, enjoy wider protection that the minimum standards required for GIs under TRIPS.

The higher level of protection required by TRIPS for GIs for wines and spirits under Section 23 is furthermore, provided by the Liquor Products Act (section 12):

> *"[U]sing any name, word, expression, reference, particulars or indications in any manner, either by itself or in conjunction with any other verbal, written, printed, illustrated or visual material, in connection with the sale of a liquor product, in a manner which conveys or creates, or is likely to create, a false or misleading impression as to the nature, substance, quality, composition or other properties, or the class, cultivar, origin, age, identity, or manner or place of production of that liquor product."*

The "false or misleading" standard means that a geographic indication need not be misleading in order to be prohibited. Even a statement that provides the true origin of the product may be unlawful in terms of this provision.

3.5 The future of GIs protection in South Africa

In a context where GIs are part of a larger trade agenda, it is unlikely that the South African Government will change its position on the protection of GIs under trade mark law. However, as part of the Government's move towards protecting traditional knowledge, an Intellectual Property Laws Amendment Bill has been drafted. It defines GIs for the first time in South African law and specifically provides for the registration of GIs as a certification or collective trade mark. This project has contributed significantly towards creating awareness and educating Government officials on GIs and has thus played an important role in these proposed legislative amendments.

References

Bendekgey L and Mead CH (1992). International Protection of Appellations of Origin and other geographic indications. The Trademark Reporter, 82(5):765.

Conrad A (1996). *The protection of geographical indications in the TRIPS agreement*. The Trademark Reporter , 86:11.

OECD (2000). *Appellations of origin and geographical indications in OECD Member countries: Economic and legal implications.* Working Party on Agricultural Policies and Markets of the Committee for Agriculture Joint Working Party of the Committee for Agriculture and the Trade Committee. COM/AGR/APM/TD/WP (2000)15/FINAL. Paris.

Van Heerden HJO and Neethling J (1995). *Unlawful competition.* Butterworths, Durban.

Rangnekar D (2003a). *Geographical indications: A review of proposals at the TRIPS council: Extending article 23 to products other than wines and Spirits.* UNCTAD/ICTSD Capacity Building Project on Intellectual Property Rights and Sustainable Development, May.

Webster GC and Page NS (1986). South African Law of Trade Marks, Unlawful Competition, Company Names and Trading Styles. Butterworths, Third Edition, Durban.

WIPO (2002). *Geographical indications: Historical background, nature of rights, existing systems for protection and obtaining effective protection in other countries.* Document prepared by the Secretariat of the World Intellectual Property Organization. September, Geneva, Switzerland.

Cases

*Capital Estate and General Agencies (Pty) Ltd and Other v Holiday Inns Inc and Others*1977 (2) SA 916 (A) 929 C.
Draper v Trist & Tribestos Brake Lining Ltd 1939 56 (RPC) 442-43.
Greaterman's stores Ltd v Marks & Spencer (SR) Ltd 1963 (2) SA 58 (FC) 69.
John Craig (Pty) Ltd v Dupa Clothing Industries (Pty) Ltd 1977 3 SA 144 (T) 149.
Kean v McGivan 1982 (FSR) 119 120.

SECTION B

CASE STUDY DOCUMENTATION

1. INTRODUCTION

A differentiated approach, tailored to the specificity of each case, was followed in documenting the selected case studies. The selected case studies were extensively developed and all key aspects for properly implementing GI strategies were investigated. This included aspects such as product characteristics and links to the 'terroir', market attractiveness of the product, as well as legal and organizational matters.

The development of each case study departed with close interaction with stakeholders to define their GI related needs as previously mentioned. Thus, besides designing a standardized framework to obtain key information for understanding and comparing the different local experiences, different research processes and methodologies were employed. This was largely driven by the different levels of maturity of the industries with regard to collective organization, quality management and signaling as well as their relative interest in developing a GI. In essence it implied that the research process was tailored to the local and industry realities of each case study as illustrated below.

In the Karoo lamb case for example, it appeared particularly important to first of all understand and scientifically determine the basis of the geographically based reputation of this famous South African product. The question was posed whether the idea that Karoo lamb tastes differently and/or better than lamb produced elsewhere vested in folklore or whether it was true and scientifically verifiable. Furthermore, can it be verified that the particular taste and attributes of the product are uniquely linked to the ‘terroir’ of the Karoo? An additional difficulty arose in this case as there were no existing collective action initiatives to promote and protect Karoo lamb. Usurpation of the name is furthermore commonplace. Karoo lamb provides a strong case for a GI based on the folklore and existing perceptions but a number of steps need to be taken to establish the potential and need for a GI type IP protection system.

Rooibos provided an even clearer case for GI protection and for that reason the research process was designed to assist the industry in applying for IP protection within South Africa and to ultimately submit a GI application to the EU. It also represents the most advanced South African initiative of IP protection at industry level and is to a certain extent serving as a pilot case to see how GIs could be developed in South Africa. As such it presents a role model for other agricultural industries. The industry is furthermore playing an important role in lobbying Government, in particular the Department of Trade and Industry, for the development of an appropriate institutional framework for protecting GIs in South Africa.

Despite strong potential, the Honeybush case currently lacks industry drive. This is largely due to the fact that the industry is still in its infancy. However, the industry has collectively recognized the importance of quality assurance and has agreed that GIs could be one way of achieving this. Due to the industry’s early stage of development, it was agreed that the focus of the Honeybush GI committee should be broader than just GI labelling issues and that it

should include other quality related dimensions associated with the possible standardization of Honeybush quality.

In both the Camdeboo mohair and Karakul pelt cases, the research revealed how the two industries have in a sense been using the GI philosophy to establish IP regimes that operate as certification trade marks. The two cases however differ regarding their existing IP and quality management strategies. In the Karakul pelt case, there is strong public involvement whereas the Camdeboo mohair initiative is privately driven. In both cases our interaction with the industry role players revealed important ideas on how government as well as groups of farmers can utilize IP management tools to increase the value of their product and simultaneously guard against usurpation.

In the Kalahari Melon Seed Oil case a partnership was established with the NGO CRIAA (www.criaasadc.org). It was agreed that, given its depth of knowledge and existing involvement with the industry, CRIAA would drive the particular case study. Given the industry's early stage of commercialization and organization, emphasis was placed on facilitating a strategic planning workshop for the industry during which participants were briefed on IP and GI related matters. The workshop served as the first industry meeting during which stakeholders agreed on pursuing a GI strategy and on follow-up activities related to the formation of a stakeholders' forum in order to establish a structured industry body.

Below are the results of the case study documentation. Some reports have been reproduced extensively. Others have been synthesized for purposes of this publication.

2. KALAHARI MELON SEED OIL

2.1 Product specificity

As explained under part 2 of section A, the primary question that needs to be addressed in establishing the potential of a product to benefit from geographical indication protection is its degree of product specificity. Product specificity refers to the ease with which a product can be defined and thereby differentiated from similar products. What becomes important is to establish the characteristics of the product that differentiate it from a similar product produced in another region and that attribute to the embeddedness of the product in a particular area.

Product description

Kalahari Melon Seed (KMS) oil is the lipid oil from the seeds of the "Kalahari Melon" or "wild watermelon", indigenous to Namibia and more broadly to the Kalahari basin of Southern Africa (Kalahari Desert and associated Kalahari sandy soil areas). Kalahari Melon, also known as "Tsama" or "Tsamma" is a bitter, small-fruited melon of the Cucurbitaceae family, recognised as the wild progenitor of the cultivated watermelon, *Citrullus lanatus* (Maggs, 1998).

The Kalahari Melon Seed oil is rich in linoleic fatty acid (around 55%-70%) and oleic fatty acid (around 10%-24%), which give the oil excellent nutritional qualities and emollient properties, especially for skin care (softening and healing qualities) (PhytoTrade, 2008).

KMS Oil Technical Specifications:

INCI name:	Citrullus lanatus (Kalahari Melon) Seed Oil
CAS No:	90063-94-8
EINECS No:	290-054-3
Description:	Yellow coloured oil, which is liquid at room temperature
Specific gravity:	0.91-0.92
Iodine value (gI_2/100g):	120-130
Saponification value (mgKOH/g):	180-200
Acid value (mgKOH/g):	5 max.
Peroxide value ($mEqO_2$/kg):	15 max.
Fatty acid composition:	**Range**
16:0 palmitic %	7.0-13.0
18:0 stearic %	5.0-11.0
18:1 oleic %	10.0-24.0
18:2 linoleic %	55.0-70.0
18:3 α–linoleic %	0.5 max.
Minor components %	0.1 max.
Manufacturing process:	Cold pressed (T<60ºC), no solvents or chemicals used.

The use of the species *Citrullus lanatus* as a source of seed oil is well known and documented in many parts of the world, particularly in West Africa (Nigeria and Mali) and Southern Asia (India, Pakistan, China etc.).

The uniqueness of KMS oil, however, resides in specific features related to its Southern African origin:

- The Kalahari Desert System is the centre of genetic diversity of the species and most probably a major centre of origin for the domesticated watermelon varieties;
- Kalahari Melons have a long history of traditional use as food and source of cosmetic oil in Namibia and adjacent countries within the Kalahari Desert system;
- Wild, semi-domesticated and traditional landraces are still widely used by rural communities in Namibia and Southern Africa; and
- A high-value niche market for "community-traded" KMS oil from Namibia has recently been developed in the international cosmetic industry.

Product Use

Traditional uses of KM and KMS oil across Southern Africa are not well documented probably because of its marginal status in today's rural livelihoods. Wild KM still retains its use as an emergency source of human food and an animal feed for agricultural and agro-pastoral communities in times of drought, as well as a source of water and food for inhabitants of the Kalahari Desert, notably the San.

However, traditional uses of KM and KMS are better documented in Northern Namibia, particularly in the North Central Regions (NCRs) and in Caprivi, where local landraces are still widely cultivated (or semi-cultivated) in crop fields (Maggs, 1998).

In the NCRs, KMS oil is traditionally used as a skin application/moisturiser and massage oil, to a limited extent for cooking, and medicinally to treat ear ache and for removing foreign bodies from the ears by filling the ear with the oil.

The oil cake which remains after the oil has been extracted is used mainly as an animal feed, but also as a treatment against human malnutrition, sometimes as a sauce with mahangu (pearl millet) porridge and to treat eye conditions through oral consumption (the type of condition is not determined but suggests a vitamin or mineral deficiency) (Carr, 2007).

Human factors

In Northern Namibia, the skills and knowledge of the producers lie in the management of the crop, selection of the watermelons for different purposes, the seed and oil extraction process and oil quality determination. The knowledge pertaining to the crop and the extraction processes is held mainly by the women, who provide much of the labour required for the process. However, this knowledge appears to be widespread rather than being held by only a few in the region. There do not appear to be any secrets or closely held information about the product (Carr, 2007).

It is recognised that watermelons fulfil an important role in the culture as an emergency food resource in times of drought, as for example experienced in 1946 in Northern Namibia (Mallet & Carr, 2008). Despite this, there are no obvious cultural (ceremonies, festivals, beliefs, taboos) or historical (stories, tales) associations with this resource, contrary to some other resources in the NCRs such as Marula (*Sclerocarya birrea*).

Production processes

There is a well defined and uniform approach by producers to the traditional production of watermelon seed oil in the NCRs. Although watermelons grow widely as a "wild" resource in less densely populated areas, the watermelons used for the product are semi-cultivated landraces, mainly by intercropping with pearl millet (Mahangu). The watermelon landraces may be planted with the first Mahangu crop or emerge arbitrarily by themselves in the field from the previous season's fruits left for the animals. Watermelons depend entirely on rainfall during the summer months for germination and growing, as no irrigation of the fields is undertaken.

There is minimal management of the crop other than to thin the watermelons to reduce competition with other crop plants. In some cases, the fields may be ploughed and manure added before the Mahangu is planted, but this practice is essentially for the Mahangu crop and not for the watermelons. No fertilisers or pesticides are applied to the crop. Selection of the watermelon varieties is apparently not widely done. The different cultivars are identified by the producers in cultivated fields by the size and colour of the fruit and the leaves of the plants. However, the size, colour and shape of the seeds also differ clearly between the traditional cultivars. Typically, the watermelons preferred for oil extraction have smaller, darker fruits and smaller, lighter coloured leaves. Seeds that are preferred for eating are obtained from larger, lighter coloured fruits on plants with larger, darker leaves.

The watermelons are harvested once the leaves begin to turn brown/yellow. There is no indication that there is any knowledge regarding an increase in the oil content of the seeds the longer the watermelons are left in the field after the leaves have died back, before harvesting and oil extraction. The watermelons are harvested by both men and women and stored in a dry, aerated area until after the Mahangu crop has been harvested. Only then are they further processed for seed and oil extraction.

Women extract the seeds by pounding the watermelon fruits with a pestle, before drying the flesh and seeds and pounding more until the seeds are released from the flesh (this pounding does not damage the seeds). Water is added to wash any remaining flesh off the seeds before they are dried and stored in a cool, dry place for re-sowing, selling or oil extraction.

The traditional process of oil extraction is described as slow and time-consuming. The seeds are roasted in a pot on a wood fire and thereafter pounded with the traditional mortar and pestle. The resulting flour is placed in water in a pot and boiled. The "foam/scud" that appears on the water surface is the oil and is skimmed off. The pot may be boiled until the water has almost evaporated and only the seed cake with the oil above it remains. The oil was traditionally stored in calabashes and is now stored in clean, glass bottles in a cool place out of direct sunlight.

The quality of the traditional oil produced is determined by three factors, i.e. colour, smell and taste. The preferred colour is a clear honey-straw, although some cloudiness to the oil will be present, as no filtering is done. A burnt smell indicates that the oil was spoilt in the extraction process, especially if accompanied by a dark colour and burnt taste (Carr, 2007).

Nowadays, the extraction of oil from the seeds for the international market is done by cold-pressing the seeds with a small-scale mechanical expeller, an obvious innovation and departure from the traditional process, resulting in clearer oil, free of residues (enhanced quality for the market). As such, this represents the only significant departure from the traditional production process to date.

2.2 Indication/place name

The wild watermelon progenitor, *C. lanatus*, is distributed widely throughout the greater Kalahari and the centre of origin of the cultivated watermelon is recognised to be the Kalahari Desert. Cluster analysis and comparison of the various morpho types of this species, including wild types, local landraces and commercial cultivars, shows that a vast and clearly defined range of diversity exists in the following forms:

- Wild populations
- Modern cultivars for commercial purposes
- Watermelon, cooking melon and seed melon landraces of the traditional agrosystems in northern Namibia
- Possible introgressed types regarded as agronomic weeds.

Farmers in Northern Namibia traditionally grow a variety of *C. lanatus* that are distinguished by and classified according to fruit morphology, ecological requirements and usage. This crop, adapted to the unpredictable climatic conditions, provides an essential food source (Maggs-Kolling, 2002).

This supports the indigenous classification system used in the northern regions of Namibia, which identifies four distinct types, i.e. oilseed watermelons (typically the Kalahari Melons), seed watermelons (for roasted seeds), sweet watermelons and cooking watermelons. The seeds from all these cultivars can be used to make oil (Mallet & Carr, 2008).

In the NCRs, farmers refer to the different varieties of watermelons which give different types of seeds (generically called *Eenanga* in Oshikwanyama or *Oontanga* in Oshindonga) as follows:

- The typical KMS used for making oil and also cooked as a roasted flour (*Eenanga domukokotwa* or *Oontanga dhomukokotwa*)
- The Eeshu seeds eaten roasted and also used for making oil (*Eenanga dolumbada* or *Oontanga dheeshu*)
- The seeds from the sweet watermelons, often kept for replanting but sometimes used for oil (*Eenanga damanuwa* or *Oontanga dhomanuwa*)
- The seeds from the cooking melons, kept for replanting and sometimes used for oil (*Eenanga domaliwa* or *Oontanga dhomaliwa*).

The indigenous names given to *C. lanatus* are many and vary according to the regions and language groups across the Southern African Region (Sepasal, 2007). Tsama/Tsamma melon appears as a name recognised and shared in the Kalahari area around the borders of Namibia, Botswana and South Africa, but the name is not used elsewhere. In the NCRs, the

generic name for the Kalahari Melon is “Etanga”, in Kavango “Matanga” and in Caprivi “Tunyangombe”.

Reference to the resource as “Kalahari Melon”, “Kalahari Melon Seeds” and “Kalahari Melon Seed Oil” is taking place in Namibia and some parts of the SADC Region with reference to the “modern” oil processing method, the new product and the emerging export market for the oil as an ingredient in cosmetics.

Area of production

The case study area is the four regions of the north central part of Namibia, collectively known as the NCRs. It is administratively clearly defined and relates to the traditional area of the Oshiwambo-speaking population groups. KM occurs widely throughout the NCRs. Efforts are underway in these regions to promote community-based KMS production to meet the international demand for oil.

There are few clear geographical markers designating the boundaries of these regions. To the far west, there is a distinctive change in topography as the Kalahari gives way to the mountainous transition zone to the coast, possibly representing the westernmost limit of where the resource occurrs. To the south, the limit of the region can be defined by the Etosha Pan. This is, however, not an extensive or convincing geographical boundary.

Of course, watermelons occur beyond these boundaries in the Kavango, Caprivi, Otjozondjupa and Omaheke regions of Namibia. They also occur beyond the boundaries of Namibia well into other countries within the Kalahari ecosystem where they are used for various purposes. Again, the boundaries of this larger region are defined politically, with few naturally obvious features delineating them.

Geographically distinctive features

The name Kalahari is used in a broad geographical sense to denote a vast arid ecosystem of the Southern African region. It spreads over much of Botswana, Namibia, South-Western Zambia and includes areas of South-Eastern Angola, North-Western South Africa and parts of Zimbabwe. The Kalahari system is typified by sand and loamy soils often overlying calcrete and is characterised in most part by good, rapid drainage and absence of surface water. Its climate is sub-tropical with unpredictable and variable summer rainfall being the norm and the region is prone to regular drought. Rainfall averages vary from 200mm in the Southern Kalahari to over 600mm in the Northern Kalahari.

The general topography of the Kalahari can be described as relatively flat, characterised by low, consolidated sand dunes and shallow, seasonal pans.

There is a general absence of surface water in most areas for most of the year and there are few perennial rivers. Water is mainly obtained from subterranean sources or seasonal rainfall.

Seasonal average temperatures vary greatly, from a low 2-5 degrees Celsius in July to more than 32 degrees Celsius in January, with great variation in daily temperature.

The vegetation of this huge area is predominantly that of the savanna biome and is described as various types of woodlands or bushveld related to the dominant species. The entire NCR falls within this biome. To the west and south (Omusati and Oshana Regions) the vegetation is described as mopane (*Colophospermum mopane*) woodland and shrub woodland, growing in shallower soils. In the Ohangwena Region, to the north east of the NCR, the vegetation is that of tree savanna, more specifically *Baikiara* and *Pterocarpus* woodlands, growing in relatively deep sand. The Oshikoto Region, to the east and south of the NCR, is Kalahari bushveld, dominated by *Acacia, Colophospermum and Terminalia* species.

2.3 Level of use, marketing and product reputation

The traditionally processed oil is quite different from the "cold-pressed" KMS oil in terms of colour, smell and taste. Due to its method of production, the traditional oil contains water in emulsion and solid particles. This oil is widely sought after in the NCRs and by people originating from these regions, due to its reputation as a quality skin lotion and according to the producers, there is a continuous demand for it. However, its production remains home-based in rural areas and its marketing confined to the local informal trade in relatively low volumes overall. In Caprivi, the traditional production of oil and its local use is reputed to be disappearing quickly, but this remains unconfirmed (no field-work was conducted in these regions by the team).

The "cold-pressed" virgin oil produced with small-scale expeller technology has been marketed in Namibia for over 10 years. Yetu Cosmetics/Oontanga Oil Factory in Ondangwa pioneered the production and trade of different products made from KMS oil, such as pure and scented oil as body lotion and soap. The local market has remained limited, even with the fast growing tourist niche-market, including the airport duty-free shops.

The international market exposure of KMS oil as a cosmetic ingredient began in 2002 when The Body Shop International plc (TBSI) included refined KMS oil as an ingredient in a body butter product and wider range of personal skin care products. Before the launch of these new product lines in 2002, there had been over 5 years of background work in Namibia and UK, which included the registration of The Eudafano Women Co-operative (EWC) as a "Community Trade" supplier of TBSI (backed up by Yetu Cosmetics/Oontanga Oil Factory). The appellation "Kalahari Melon Seed Oil" dates back from this time, with the clear intention to differentiate the Namibian (or Southern African) product in the international market and thus protect local producers against competition from other parts of the world (Du Plessis, 2002).

A second international buyer (Aldivia), a French speciality lipid oil formulator to the cosmetic industry introduced through PhytoTrade Africa, has become particularly interested in KMS oil, especially for the rapidly growing Fair Trade and Organic certified market segments. However, sufficient supply from Southern Africa and Namibia remains an obstacle to commercially developing this product.

From 2001 to 2006 Namibia exported the equivalent of some 300 tonnes of KMS oil to Europe, mainly to the UK and France. The current demand for oil (from 10t to over 30t per annum) is not matched by the supply which is presently limited to the NCRs of Namibia. This is likely to erode the confidence of international buyers (Mallet, 2007).

However, the existing reputation of KMS oil in the international cosmetic industry is strong, not because of intrinsic novel properties but due to its specific features which include:

- The excellent emollient qualities referred to above;
- The low- or no-input agricultural production conditions, virtually "organic" and from an unpolluted and clean environment;
- The present and historical uses of the fruit, seed and oil help in documenting the safety of the product in the local and international market;
- The pure, natural, virgin, cold-pressed characteristics of its production; and
- The community traded aspect of the supply chain, which provides a strong marketing image of a product benefiting poor rural communities and women in particular.

2.4 Description of the current industry framework

Collective structures in support of market access and quality management

With the KMS oil industry being relatively new and still under-developed compared to the market potential of the product, there is no overall representative body of the industry as such in Namibia or in Southern Africa. Such a body would potentially include representatives of organised primary producers of KMS, supply chain marketing intermediaries, KMS oil processors/exporters, local retailers/formulators and the public and private development sector.

In Namibia, KMS is not a "controlled product" under the Namibian Agronomic Industry Act of 2002 and the industry has no obligation to be formalised under the Namibian Agronomic Board. However, the Eudafano Women Co-operative (EWC) has been representing a significant part of the value-chain: rural women producers of KMS, affiliated village-based associations as marketing intermediaries, EWC-owned factory in Ondangwa as KMS oil processor, and EWC as a whole as the registered CT supplier of TBSI and exporter of KMS oil.

The EWC's constituency is limited to the NCRs of Namibia. It has been procuring KMS for its factory from individual farmers and other organised marketing groups, such as the King Nehale Conservancy in Omuthiya (Oshikoto region). Quantitively, these have been more significant producers of KMS than the women members of EWC associations. Regional Farmers' Co-operatives in the NCRs are emerging as organised marketing intermediaries for KMS. The involvement of other primary producers and KMS marketing intermediaries in regions other than the NCRs, is a potential avenue which still needs to be explored.

Besides the EWC factory, another private processor of KMS oil using the same processing technology, Oontanga Oil Producers CC (OOP) is also operating in Ondangwa but without direct export access as a CT supplier of TBSI.

In Namibia, the Indigenous Plant Task Team (IPTT) is a public-private forum and a government mandated national co-ordination body for the promotion of indigenous plants and products. However, its developmental role which includes financing research and development in the natural product sector does not make it a KMS oil industry representative body.

PhytoTrade Africa (PTA), the Southern Africa Natural Products Trade Association, is constituted as a trade association with members across the SADC region from primary producers' organisations, processors, traders, manufacturers and developmental service providers (mostly NGOs). Although KMS is part of the focal species for PTA's work and KMS oil is a priority product, not many members are actively engaged in KMS oil business apart from the Namibian members (EWC, OOP, CRIAA SA-DC and IPTT). However, there are indications of interest and potential production from members in Botswana, South-West Zambia and possibly Zimbabwe.

There are clearly a number of structures in support of KMS oil development and market access in Namibia and for the Southern African region, all of which play (and would play a greater) role in quality management along the KMS oil value-chain. But it is also clear that there is not yet a fully representative body of this emerging industry, which would be recognised in Namibia or in the SADC region.

However, a first Namibian KMS stakeholders' meeting took place recently in North Central Namibia (Mallet & Carr, 2008). Namibian stakeholders agreed on the formation of a representative KMS oil industry body comprising producers and processors, as well as other public and private stakeholders. Although the detailed roles, form of organisation and composition of this KMS industry body were left to be decided upon at a subsequent workshop, the meeting agreed that one common purpose of the industry was to improve and manage the good reputation that Namibian KMS oil has attained in its international niche market.

Farming system

Production of melon seeds is undertaken by a number of small-scale, community-based farmers (usually families) in the NCRs. The farmers are mainly geared towards crop production, such as pearl millet, sorghum, maize, cow-peas for subsistence purposes, with melons intercropped, as a "secondary" crop. There is no "free-hold", "commercial farm" production.

Supply chain: current relationship of farmers with downstream actors (processors, retailers etc.)

Less than 500 female members of EWC associations (out of a total of around 5 000 female members) are regularly selling KMS to the EWC factory. As indicated earlier, not all farmers producing KMS are affiliated to EWC. OOP as a private profit-making enterprise has no affiliated or registered primary producers. Even so, it has some preferential buying arrangements in some of the production areas. OOP currently produces small volumes of KMS oil for their own product and supplies other local companies such as Africa Life Style

with oil. Conservancies, such as the KNC, are another form of organisation in the rural areas and are potentially organised producers of KMS. Conservancies are not precluded from supplying to other producing bodies such as EWC.

The relationship between the EWC factory and farmers producing and marketing KMS revolves around a pre-agreed price structure, which guarantees a fixed remuneration to producers and allows for a margin to be paid to organised producers' marketing groups for bulking KMS at assembly centres and covering the costs of transport delivery to Ondangwa. In addition, basic visual quality control is performed at the EWC factory upon delivery and marketing groups are expected to hand-over KMS intake and delivery records listing individual farmers, quantities supplied and bag numbers to ensure traceability of the raw materials and a minimum level of transparency in the financial transactions.

Ownership structures surrounding the indication and existing attempts to register ownership

There is no registered ownership over the product. Currently the oil is sold under the name (appellation) "Kalahari Melon Seed Oil" so as to create a local and regional identity for the product, based on the Kalahari ecosystem and genetic variety, to differentiate and protect the product in the international market. Oontanga Oil Producers CC, one of the oil processors in the NCRs, is a registered trade name.

External support

CRIAA SA-DC has been supporting EWC, including its KMS oil business and has been a service provider to the IPTT in the development of the emerging international supply opportunity, in organising the producers into a supply chain and creating linkage to the external buyer(s). Other actors such as IPTT and PTA were mentioned above in more detail.

The IPTT is supporting a Kalahari Melon Seed Oil Development project (supply chain scaling-up for 2008/09) and a KMS breeding project (since 2006), which is aimed at selecting improved lines of KM for oilseed production (improved agronomic traits, higher seed yield per fruit, higher oil content, appropriate fatty acid composition).

Through PhytoTrade Africa's partnership with commercial companies in the international cosmetic industry, international registration and technical specifications for the KMS oil have been achieved.

In Namibia, government Ministries include the MAWF, MET/ICEMA, MTI, and NGOs include the Rössing Foundation for pilot organic certification and support to the KNC, the NNFU, and for the Caprivi Region the IRDNC and WWF/CEDP project.

2.5 Link between GI protection and biodiversity conservation

Biodiversity relates to the wild resource and the traditional landraces. There is, in Namibia, an existing gene pool with a high degree of diversity. The developing KMS industry will have to consider the landraces and selective breeding process to improve lines based on this diversity. The KMS industry is not based on promoting production as a "mono-cash crop", but maintains its intercropping status.

Currently the resource is semi-cultivated or cultivated. The challenge is, therefore, to domesticate the wild watermelon, if feasible. If commercialisation is successful there could be a push for domestication. There is already a breeding programme underway to promote the positive agronomic features of the resource, such as higher oil yields/content of the seeds.

By defining the resource within a geographical area, the integrity of the resource in terms of its genetic variability would be enhanced. This is an important consideration for genetic diversity conservation of the existing and productive landraces as well as the wild resource.

Any development raising the profile of watermelons and the economics of the industry, while promoting the protection of biodiversity is worthwhile pursuing. With no commercial benefits, it is questionable whether the public sector would invest time and effort in the resource. In this regard, GIs would contribute to the justification for research and protection in line with the government's national agricultural diversification and poverty alleviation development policies.

Through the establishment of an association or controlling body for the industry, as required for a GI, there is some scope for regulating the use of the resource to ensure sustainability, traceability and monitoring. Hence, some protection and management of the resource is possible, thereby contributing to biodiversity conservation.

2.6 What is at stake and which strategies have been developed?

The challenges/problems facing the emerging industry

The emerging KMS industry is market driven and currently enjoys a high demand for the product. The need to expand production to meet demand is a major challenge to the emerging KMS oil industry. The KMS supply chain and supply network remains under development, with low volumes of KMS oil processed compared to the actual demand on the international market. The challenge is the real need to rapidly increase production to meet demand for the product on a regular basis. By not meeting demand there is a danger that the market may begin sourcing an alternative or drop KMS oil as a cosmetic ingredient. Watermelons used for oil are produced in large quantities in other parts of South East Asia and West Africa. This trade is not subject to any fair trade registration and represents a potential threat to the KMS producers. A further threat is the large scale commercial production of *C. lanatus* in, for example, South Africa. In this regard, it is more desirable for community-based producers to cooperate than compete within the SADC region, by finding ways to harmonise across the region on production, quality and price.

The NCRs producers are the only significant suppliers of KMS oil in the SADC region. There are efforts through PhytoTrade Africa to expand volumes of supply by organising community-based producers in other SADC countries, most notably Botswana. At the same time, there is potential to expand production in Namibia to the Kavango and Caprivi regions, and to a lesser extent, the Otjozondjupa and Omaheke regions, where traditional use of the resource occurs.

The associated problem is the need to defend a high price for the products to sustain the development of the nascent industry before economies of scale (supply chain and processing) can be envisaged and a more competitive position can be attained in the market. The industry is developing strategies to promote the reputation and protect the price of its product in the market by registering KMS with the Fair Trade Organisation,, investigating the option of organic certification and emphasising the ecologically friendly aspects of production.

There is, furthermore, a need to maintain product quality through the implementation of standards in order to preserve the reputation of the product. It is also necessary to ensure the preservation of the resource's genetic diversity. The product already has a reputation for its quality as a cosmetic ingredient. There is a potential threat to diversity from wild harvesting as the industry grows to meet the demand. The promotion of KMS and traditional farming systems support genetic diversity and the important landraces.

Defining the geographical scope of any GI/Appellation for KMS oil remains an unresolved challenge. The appellation "Kalahari Melon Seed" has been adopted by the original stakeholders in the emerging industry as an identity for the product in the market and reflects the occurrence of *C. lanatus* throughout the Kalahari, with its associated and traditional uses and practices.

The NCRs of Namibia have the only organised community-based producers within the SADC region currently supplying international buyers with KMS oil. A restrictive approach limited to the geographical area of the NCRs and possibly adopting an appellation such as Etanga/Oontanga would not be able to resolve the supply constraints. A national Namibian approach could increase supply volumes but has no specific unifying name.

A broader regional (SADC) approach, for which the "Kalahari" appellation would be appropriate, has no other obvious name other than "Kalahari" for a regional resource. This would leave the option open for national names such as Namibian Kalahari Melon Seed Oil, allowing for development of the industry on a national level, while not precluding other SADC countries from sharing the identity of the resource as their industries emerge. It is too early to draw conclusions on this as further consultation with stakeholders is required.

Potential for establishing a GI

In conjunction with other development efforts, a GI approach would provide a valuable contribution in addressing the following problems and challenges:

- The protection of KMS oil against competition from the same oil produced cheaper in other parts of the world, which would not have the same ethical trade credentials.
- The protection against the potential threat of more competitively priced watermelon seed oil from large-scale "commercial farms" within Southern Africa, if ever technically feasible and economically viable.
- The definition and management of "quality standards" for the seeds and oils, not only in terms of technical quality but also in terms of traceability, ethical and eco-friendly trade.
- The organisation of producers and the harmonisation of prices across various rural community-based production areas within Namibia and within the Southern African region.
- The protection of genetic diversity including the wild resource and better protection for the semi-cultivated forms (landraces) to prevent the loss of these cultivated forms.

Prospects

The prospects of a successful industry for KMS oil are positive, subject to the resolution of the challenges and problems. It can be assumed that the industry will continue to grow and develop. It is clear from the consultations with stakeholders that the industry is, however, too new and stakeholders lack the wider picture to fully grasp these challenges. The establishment of a Producers' Forum at national level may contribute to increased capacity among stakeholders and the development of the industry both in Namibia and within the region as a whole.

2.7 Interesting perspectives from the case study

In this case, it is not the traditional oil but rather the cold-pressed oil from the same production line which has significant market potential. This presents a break from traditional oil production technology. Currently, KMS oil is an "intermediate" product, used in the production of the final product. The long term vision is to develop the local cosmetic industry.

Regarding the geographical delimitation, it is of interest to think of how to articulate a national strategy in a regional set-up and how to integrate other producing regions, both nationally and regionally.

The KMS oil industry is an emerging industry. There is as yet no established, broad organisational set-up beyond the EWC. The question remains how this capacity can be developed. The industry is currently not well enough structured to take on all that is needed to define what goes into an application for a GI and to defend it.

GI is an interesting tool for the protection and promotion of the product's identity relating to ethical trade and product reputation for the KMS industry. There are not really any trade

secrets or recipes that need protection. The question remains whether a GI is appropriate for the KMS industry, or whether promoting the industry though a distinctive labelling strategy in terms of its eco-friendly and ethical trade characteristics would be sufficient. There may even be scope for a number of combined strategies, all aimed at promoting the product's identity.

Any potential GIs may further be linked to biodiversity protection, as the KMS oil production is based on the existence of landraces in the NCRs.

2.8 Potential benefits from GI protection

The KMS industry is a dynamic industry. If a GI approach is to be feasible and desirable it would have to consider trends in the industry towards greater cultivation, selection of landraces, expanding market strategy and evolution for low production technologies. A GI would furthermore need to consider the way the oil is produced and how it is traded.

2.9 Appropriate tool for rural development in Southern Africa

The Namibian strategy in developing new market opportunities is to focus on high-value niche markets. Tools such as GIs, as well as ethical and fair trade credentials, contribute to the value of production downstream, enabling Namibian producers to compete in the market.

The establishment of rural grassroots organisations are necessary to support this process, i.e. the supply chain of small producers who are producing small volumes. GIs support the establishment of producer associations and representative organisations as part of establishing the claim and supporting the GI status.

There are few "endemic" products, within clearly definable, distinct boundaries of a single area, region or country. GIs could be useful when there is a clearly defined product already in existence and the resource and production areas are clearly demarcated geographically or culturally.

Most community-based products are not the finally marketed products but represent a stage along the production process. It represents mostly raw materials or semi-processed final products to be refined and developed elsewhere. There is an emphasis on developing capacity to add more value within the country or region, at which point GIs could contribute to product protection.

References

Amutse F and Mallet M (2001) “EWC/Kalahari Melon Seeds of Namibia: Production and Quality Control Stages”, CRIAA SA-DC, Windhoek, 28/06/2001

Braun B (2008, 2007, 2006) “Improvement of Seed Oil Characteristics in Selected Namibian *Citrullus lanatus* Lines to Support Increased Production of Kalahari Melon Seed Oil” Progress reports to NBRI & IPTT, Farm Jena

Carr S (2007) “Preliminary Information Dissemination to Kalahari Melon Seed Stakeholders in the North Central Regions of Namibia” Field trip Report, 4-10 March 2007, Project DURAS, CRIAA SA-DC, Windhoek

Den Adel S (2006). “Quantitative Analysis of the KMS Export for the 2004/2005 Season”, internal report, CRIAA SA-DC, Windhoek, January

Du Plessis P (2002). “Special Report on Kalahari Melon Seed Export (Appendix 3)”, in Promoting Indigenous Fruit in Namibia, Phase-1 final report to IFTT/MAWRD, CRIAA SA-DC, Windhoek, Oct. 2002

Gallardo J (2006). “Eudafano Women Co-operative (Ondangwa): Production Results of the Factory (from July 2005 to February 2006)”, CRIAA SA-DC, Windhoek, June

Gamond R (2002). “Seed extraction from *Citrullus lanatus*”, R&D trials report, CRIAA SA-DC, Windhoek, Aug. 2002

Gamond R (2005). “Testing and adapting the South African Expeller (Rutec/Destek Design) for melon seed oil extraction by EWC: Technical report”, CRIAA SA-DC, Windhoek, July 2005 - “Guidelines for the operation and routine maintenance of the Tinytech expeller (KMS Processing)”, CRIAA SA-DC, Windhoek, 16/11/2005 - “Brief report on Tinytech expeller installation and other work done at EWC Factory, 8-11 Nov. 2005”, CRIAA SA-DC, Windhoek, 15/11/2005

Kolberg H (2004). “Screening of *Citrullus lanatus* Germplasm to Identify the Best Line for the Production of Melon Seed Oil”, research project report, National Plant Genetic Resources Centre, NBRI, Windhoek

Maggs GL (1998). “Genetic Resources and Agricultural Potential of Indigenous Cucurbitaceae in Namibia”, PhD thesis, Department of Agricultural Science, The Royal Veterinary and Agricultural University, Denmark

Maggs GL (1999). “Namibia - a Watermelon Wonderland”, Spotlight on Agriculture No 16, MAWRD, Windhoek, Jan. 1999

Maggs-Kölling GL, Madsen S and Christiansen JL (2000). “A phenetic analysis of morphological variation in *Citrullus lanatus* in Namibia”, Genetic Resources and Crop Evolution 47: 385-393, Netherlands

Maggs-Kölling GL and Christiansen JL (2003). “Variability of Namibian landraces of watermelon (*Citrullus lanatus*)”, Euphytica 132: 251-258, Netherlands

Mallet M (2007). “Kalahari Melon Seed Development Proposal” final report to IPTT, CRIAA SA-DC, Windhoek, Jun. 2007

Mallet M and Carr S (2008). “Proceedings of the Workshop No 1 (Project DURAS): Industry Stakeholders’ Meeting & Consultation on Geographical Indication, held at Ongwediva ELCIN Centre, 26-27 March 2008”, CRIAA SA-DC & NBRI, Windhoek, April 2008

NNFU (2007). “Marketing Mahangu, Maize and Melon Seed by Small Scale Farmers in Six Northern Regions”, project proposal Apr. 2007 – Mar. 2010 submitted to the Namibian Agronomic Board, Oshakati, Nov. 2007

PhytoTrade Africa (2008). “Kalahari Melon Oil” http:/www.phytotradeafrica.com/products/kalaharimelonoil.htm

PhytoTrade Africa (2007). “Kalahari Melon Literature List”, website folder, London

Schall F (2003). “Wild Melon in North Central Namibia: Cultivation, Processing, Traditions, Markets”, draft report, CRIAA SA-DC, Windhoek, Nov. 2003

SEPASAL (2007). “Citrullus lanatus”, www.kew.org/sepasalweb/sepawb, Royal Botanic Gardens, Kew, UK

3. ROOIBOS CASE STUDY[5]

3.1 Background

Rooibos in the USA: South Africa's awakening to the dangers of unprotected intellectual property

Around the turn of the century a legal dispute which became known as the "Rooibos case" captured headlines in South Africa. The origins of the dispute date back to 1994 when Forever Young, a South African Company specialising in pharmaceutical and skin care products, registered the mark Rooibos in the United States in relation to, among other things, herbal teas. This in effect gave Forever Young the exclusive right to market products labelled under the name Rooibos in the United States. The rights to the mark were subsequently assigned to a United States citizen, Virginia Burke-Watkins, principle owner of Burke International for $10 (Cape Argus, 2005). Significantly, Burke International only used Rooibos as an ingredient in their skin care products with the result that their imports of Rooibos amounted to less than 1 ton per year, effectively closing the Unites States market for the South African Rooibos industry.

Rooibos Ltd, the largest Rooibos processor in South Africa and the beneficiary of most of the assets from the former Rooibos Tea Board, instituted expropriation procedures soon after the US registration of the name Rooibos by Forever Young (USPTO, 2004). It claimed that the mark should be expropriated on the basis that it is generic and, therefore, non-distinctive. However, the situation was only exposed in the South African media when the Wupperthal cooperative (representing the resource poor farmers in Wupperthal) ran into legal problems while exporting their product to the United States.

A number of coffee houses in the US joined the litigation process and after years of expensive litigation, the case was eventually settled out of court following a ruling in February 2005 by a district court in Missouri in favour of the United States based company, Republic of Tea. With mounting legal costs and several additional law-suites pending, Burke-Watkins agreed to voluntarily surrender her rights to the trademark. In June 2005 the trade mark was struck from the US trade mark registry based on the fact that the name Rooibos is a generic term commonly used to refer to the herbal tea derived from the *Asphalathus linearis* plant (Tralac, 2007) and therefore deemed descriptive. In terms of trade mark laws, a trade mark should be distinctive and not descriptive, thereby providing a ground for expropriation of generic terms. Although the industry succeeded in claiming back the right to use the name Rooibos, the cost of the dispute amounted to nearly $1 million in legal fees. The industry's experience and near loss of the right to use the name Rooibos highlighted the need for local industries to be proactive in protecting their intellectual property rights.

[5] Estelle Biénabe and Dirk Troskie

The Rooibos industry's experience in the US led to some realisations in South Africa. These include:

a) We should not only be afraid of other countries trying to protect their own, but we also have a heritage that is at risk,
b) The significant cost implication of international court proceedings for a small industry,
c) Who should protect our heritage? Is that the function of government or of the (private) role-players in the industries? This is especially a problem for the smaller industries without a substantial economic base, multiplied by the number of countries where protection is sought,
d) It is necessary to embark on a serious quest in search of solutions,
e) Even South Africans cannot be trusted, but may for financial or other personal reasons exploit our collective heritage if it is not protected adequately.

Institutional developments: from the Four provinces project to the registration of Rooibos as a GI

Geographical Indications (GIs), and the implicit use of geographic location as a value adding and product differentiating mechanism, is not unknown to either agricultural producers or consumers in South Africa. South Africa already entered into the so-called "Crayfish Agreement" with France in the 1930's. In terms of this agreement, South Africa relinquished the use of the term "Champagne" on the condition that France would open up its market for South African crayfish. A more formal indigenous system for managing and certifying the link between the product and its specific environment was created with the establishment of the Wine and Spirits Control Act No. 47 of 1970. This system was refined with the establishment of the Liquor Products Act No. 60 of 1989.

Although the Wine of Origin Scheme has been well embedded in the agricultural economy, some of the implications of such a system were highlighted during the negotiations for a Trade and Development Cooperation Agreement (TDCA) between South Africa and the European Union. More specifically, in the negotiations of the Wines and Spirits section of the TDCA, the relinquishing by South Africa of specific names such as "Port" and "Sherry" created visions in the mind of the general population of a number of other expressions being under threat. Especially in those parts of the population with strong ancestral linkages to Europe, this led to a feeling of creeping dispossession.

In the Western Cape Department of Agriculture the implications of the TDCA, and specifically the implications of relinquishing certain names, were evaluated. It was found that, although the Port and Sherry Industry at that stage amounted to an annual retail value of R742 million, only 3,3 percent was being exported. It followed that the replacement terms for Port and Sherry could be introduced domestically, while any detrimental effect on the export drive would be limited (Troskie, 1998).

However, almost more important was the realisation that the EU is pushing for similar recognition of non-alcoholic products on the one side while a similar domestic system could not only be used as a product differentiation and value adding tool, but also as a mechanism

to protect local names. Following this realisation, a Provincial initiative was launched to create the appropriate legislative framework for the protection of what was called "speciality products". A submission was made to the Provincial Cabinet on 6 May 1999 and in principle approval was obtained to develop draft legislation. See Troskie (2000) for similar arguments as those made to the Provincial Cabinet.

As a result of the approval by the Provincial Cabinet the following four Draft Bills were developed and published for public comment in the Provincial Gazette during January 2000:

1. Western Cape Designated Agricultural Products Board Draft Bill
2. Western Cape Protection of Geographical Indications and Designations of Origin for Agricultural Products and Foodstuffs Draft Bill
3. Western Cape Certificates of Specific Character for Agricultural Products and Foodstuffs Draft Bill
4. Western Cape Organic Products Draft Bill

It was unfortunate that two sources of pressure led to the fact that these Draft Bills were never enacted. On the one hand the National Government considered the Provincial initiative as trespassing on its Constitutional obligation (Act 108 of 1996) to set norms and standards for the Agricultural Sector while at the same time weakening its negotiation position at bilateral as well as multi-lateral level. The other source of resistance was that some of the local industry bodies saw this initiative as a threat to its powerbase. The political pressure eventually led to the abandonment of the provincial legislation.

Analysis of the potential role of GI continued with publications such as Mendes (2001) and Mendes and Troskie (2001). Momentum returned to this initiative when the Heads of the Provincial Departments of Agriculture of the Eastern Cape, Northern Cape, Western Cape and KwaZulu-Natal met at Cedara on 26 and 27 February 2004. Of the 12 working groups formed at that meeting one was tasked to investigate the role and protection of products with unique characteristics. Incidentally, this was also the only Working Group that produced any tangible results.

The Working Group outsourced some of its activities whilst others were done in-house. The case studies that the Working Group investigated included Amadumbe, Aloe Verox, Umlequa Chicken and Rooibos. The work that was outsourced included:

a) The impact of GIs on South Africa (Laing, 2005a)
b) The relationship between GI and the various forms of Trademarks (Laing, 2005b)
c) An investigation on the potential of Honeybush and Klein Karoo Ostrich as potential GI (Bramley, 2006)

The Working Group argued that the following arguments could be made in favour of GI:

a) Enhancing the cultural role of food.
b) Creating linkages across national boundaries within Africa as well as with the African Diaspora.
c) Enhancing the financial feasibility of farming.

d) Protecting indigenous names and property.

The Working Group reported back to the four Heads of Departments at a meeting on 15 November 2005 in Gugulethu, Cape Town. The most important outcome of this meeting was that a decision was taken by the four Heads of Department (and thus the four Provinces) to support the concept of Geographical Indicators and to approach National Institutions such as the National Agricultural Marketing Council (NAMC), Department of Agriculture (DoA) and the Department of Trade and Industry (DTI). A meeting with the Chairperson of the Board as well as the Chief Executive Officer of the NAMC took place on 21 April 2006 in Cape Town and was followed by a workshop under the auspices of the NAMC on 24 November 2006 in Pretoria. During the latter workshop representatives of the Department of Agriculture were also invited. The meeting with the DTI took place on 26 May 2006 in Pretoria and it was decided that the members of the Working Group would be invited to comment on the forthcoming Draft Intellectual Property Rights Bill. The opportunity to comment has been utilized on 4 May 2007 and 12 May 2008. The opportunity to participate in the hearings of the Standing Committee is still eagerly awaited.

3.2 The Rooibos product and production features

The product features and specificity

Rooibos is an herbal tea made from *Aspalathus Linearis*, which is an endemic plant of the fynbos biome in South Africa. *Rooibos* is the Afrikaans word for 'red bush'. *Aspalathus linearis* is one of 278 species within its genus. High levels of morphological variation within *Aspalathus* have been reported in the literature. The range of variation is easily observed in wild *A. linearis* populations throughout the natural distribution area of the species (Dahlgren 1968, Stassen 1989, Van der Bank 1999 and Van Heerden 2003). Historical studies have offered limited but significant insights into the infraspecific taxonomic classification of wild Rooibos biotypes. Dahlgren (1968) ascribes these variations to differences in geographic locations.

Wild Rooibos harvested for consumption may be categorised into four morphological types:

a) Suid Bokkeveld: “Veldtee”, a voluminous resprouter described in the PCA as the shrub form;
b) Wupperthal: “Langbeentee” (Long-legged tea) or “Regoptee” (Upright tea), a re-seeder (erect form)
c) Wupperthal: “Ranktee” or “Rankiestee” (Creeper tea), a sparse re-sprouter (prostrate form); and
d) Biedouw Valley: “Boomtee” (Tree tea), an erect reseeder (tree type)

Rooibos has a long history related to a specific territory. Traditionally gathered in the wild, Rooibos is nowadays mainly cultivated. Rooibos cultivation practices have been developed over the last century by the different settled populations. It is now strongly associated with the landscape of the Cedarberg region and is a key element of its identity. Even if the Rooibos cultivation practices have evolved considerably, its first processing, which also takes place in the region of cultivation, still relies mainly on traditional methods probably tracing

back to the Khoi and San populations over 300 years ago. The traditional methods consisted in harvesting the wild plants, crushing the leaves with axes and hammers and leaving them in heaps to ferment before drying in the sun. The main difference is that nowadays the methods are more mechanized and refined. Rooibos has become part of the South African heritage.

Various qualities of Rooibos are identified according to the production area. The type of harvesting also influences the tea-quality: hand-picked tea is finer.

Rooibos is considered to be a good substitute for black teas and coffee, not only due to its health benefits, but also due to its versatility and variety. A wide selection of flavoured Rooibos products is available. Often Rooibos is used as a basis for other herbal or fruit teas and can be found in ready-to-drink (RTD), as well as self-brewed, iced-teas. Rooibos is packaged in and available as loose leaves, various tea bags and powders, ready-to-drink products, cosmetics and shampoos, in tins, glass, tetra-packs, cardboard boxes, cans and bottles. New innovative product applications include green (unfermented) and organically produced Rooibos.

The production process

According to TISA (2004) the Rooibos plant is cultivated on a five-year cycle and can be harvested 3 - 4 times per cycle. During the first harvesting cycle (at 18 months), the dry yield is 150 - 300 kg/ha, for the next two seasons 300 - 600 kg and in the fifth year again 150 - 300 kg/ha. A rotational period of 12 - 13 years then follows, with the land being used for small grains such as oats, rye and triticale. Both the plant's lifespan and production capacity have reportedly decreased over the years. This is allegedly due to seed selection practices and the use of the same gene material pool for half a century. The lack of advancement in this regard could have a serious impact on sustainable growth and needs attention. Production growth for the medium term would thus mainly be driven by increased geographical spread, rather than through improved cultivation techniques.

Generally, Rooibos needs very little additional fertiliser. The risks of dry-land Rooibos farming include rainfall at specific times of the growing cycle, correct growing requirements, and the plant's susceptibility to diseases. As the plants take 18 months to come into production and work on a cycle, the farmer needs to be able to manage cash flow.

Seedlings are planted between June and August, depending on weather conditions. The young bushes are then topped, which means the tops of the bushes are pruned off, between December and March to promote branching. The first harvest can be expected one year later. As the Rooibos plant has a lifespan of four to five years, new crops have to be planted annually, so as to avoid years without a crop.

According to Hansen (2006) the approximate production cost over a 9-year cycle (6 year growing, 3 year rotation) is R13 000 per ha. At an average price of R12 per kilogram for dry Rooibos, this means that the farmer must bring in 1,083 kg of Rooibos per cycle to break-even. This is possible but drought, production landscape, market demand and supply and the exchange rate all impact on the profitability of the industry.

TISA breaks this down into the following key production statistics in 2003:

KEY PRODUCTION DATA:	2003
Establishment costs, excluding land (R/ha)	R1 000 – R1 600
Production costs (R/kg)	R4,50 – R6,50
Plants per hectare	7 500 – 12 500
Plant's current lifespan	4 – 7 years
Average dry yield per hectare over plant's total lifespan	1 500 kg – 2 000 kg

Following production, and prior to marketing, the value chain has four main processes, namely:

a) First level processing – wet unfermented tea into red brown tea at tea court
b) Second level processing – pasteurisation, sieving, dust extraction etc at processing plant
c) Third level processing – in-house packing and retail contract packing
d) Value-adding manufacturing – instant teas, nutraceutical extracts, ice teas, cosmetics, etc

After harvesting, the Rooibos branches proceed to the tea court for the *primary processing*. The fresh Rooibos is processed into small pieces, fermented and dried. Not every farm owns the required facilities. Those who do not possess their own equipment generally share tea courts with one or two other small farms. The drying loss is 3:1 and the average dry yield per hectare is about 300 kg (TISA, 2004). The processors, also referred to as the assemblers, also accept wet (non-fermented) tea which they process on their own tea courts. Finally, the product is either bagged into sacks to be sold as bulk, or packaged in tea bags, ready for end-consumer's use.

Know-how and practices associated with the processing stage are widely shared inside the South African industry. However, specific qualifications are associated to the function of the 'tea master' who controls and monitors the first processing stage. Furthermore, Rooibos farmers and processors have developed specific know-how in relation with the blending of Rooibos teas from different plots and different cultivation, which are associated with their capacity to assess and manage Rooibos quality. Indeed, tea from the different production areas is usually blended to meet demand and realise a consistent quality.

When exporting the product, there is another step involved, the *quality control*. By law, each consignment of Rooibos exceeding 15 kg must be controlled and approved by the *Perishable Products Export Control Board* (PPECB). The PPECB was established in 1926 and it conducts its business in terms of the Perishable Export Control Act No.9 of 1983. It has been assigned by the Department of Agriculture to inspect all exports from South Africa in accordance with the Agricultural Products Standards Act No. 119 of 1990. However, it is important to note that the statutory powers of the PPECB are limited to exports and domestically traded products are not necessarily inspected by this body.

The history of the Rooibos industry

The discovery of Aspalathus Linearis by European botanists dates back to as early as 1772. Rooibos tea is an indigenous herb that grows exclusively in the Northern and Western Cape provinces of South Africa, precisely in a small area located 200 km in the North of Cape Town, the Cedarberg Mountain region and around Clanwilliam and Citrusdal.

Rooibos has been used and harvested from the wild at least since the eighteen century in the Cederberg Region of South Africa. However, it was only marketed for the first time outside the Cederberg region in 1904 when Benjamin Ginsberg, a Russian immigrant, bought some of it from local South African inhabitants and sold it in Europe under the brand Eleven' O Clock. Rooibos cultivation was developed in the 1930's with the identification of the 'Nortier' cultivar. In 1948, in reaction to a crisis in the marketing of Rooibos, the Clanwilliam Tea Cooperative was established. In 1954 this Cooperative formed the basis of the Rooibos Control Board, appointed by the Minister of Agriculture. As a result quality was standardised and improved. However, the corollary was that markets were regulated and prices fixed (Rooibos Ltd, 2007) and with a volume-driven bulk sales approach, there was very little value addition or product development. Marketing efforts were predominantly focused on the local market and local consumption accounted for about 75% of annual production. This however, should be seen in the context that the Control Board, through its legal statutes, was not allowed to engage in value-addition and thus restricted to bulk sales (TISA, 2004).

The South African Agricultural Marketing System was deregulated in 1997 with the promulgation of the Marketing of Agricultural Products Act No. 47 of 1996. However, the Rooibos Control Board already voluntarily deregulated in 1993. Its assets were distributed to producer farmers who were former members of the co-operative in the form of shares in the newly formed public company, Rooibos Ltd. This brought an influx of new players onto the market, with operations expanding to the broader Cedarberg area as well as Cape Town. Snyman (2007) indicates that many farmers broke away to form their own firms, with King's Products (Pty) Ltd being the first to establish a processing plant in 1996. Whilst the impact is clearly visible on second level processing (from one pasteurisation plant to eight), it is especially in the areas of international sales and new product development that the benefits of deregulation are tangible. Since 1998, high-valued niche products such as green and organic Rooibos, ice teas, powdered extracts, new herbal blends and flavours, etc. have burst onto the market and international sales have increased with more than 300% (TISA, 2004).

3.3 Current structure of the Rooibos Industry

The turnover of the Rooibos tea industry was estimated at 180 million Rands in 2004 (corresponding to 22.5 million euros). The export market represents more or less 60% of production with 40% of production sold on the domestic market (TISA 2004).

The production of Rooibos is clearly dominated by a small number of processors who collect and transform Rooibos and sell it to intermediaries who undertake the marketing thereof. Rooibos export marketing and supply chains are dominated by a few leading European tea importers based in Germany and which are some of the largest tea brokers in the world.

These firms buy Rooibos in bulk for blending and resale to other countries. The figure below gives a schematic overview of the Rooibos supply chain.

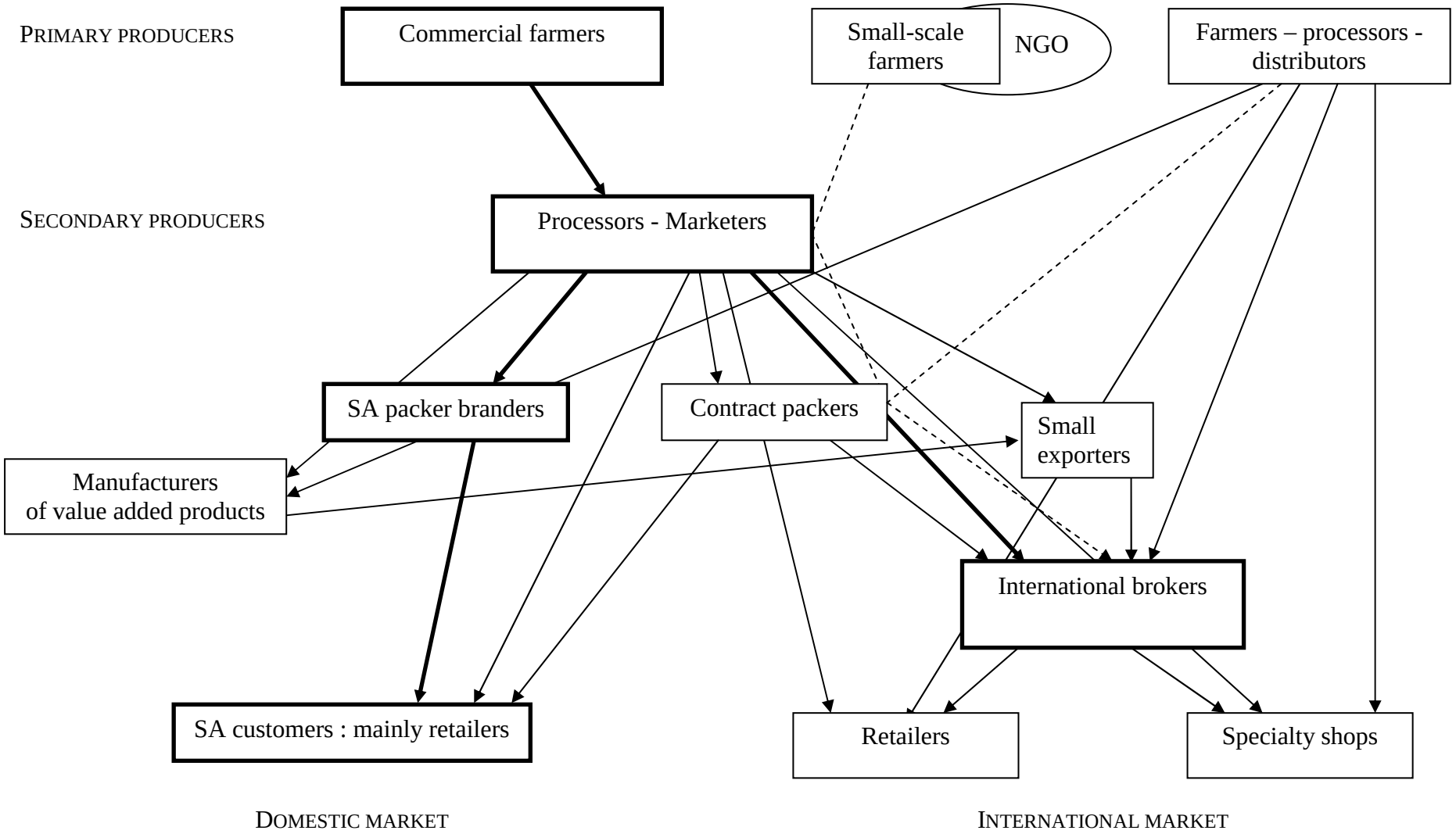
Farming systems and connection to processing firms

The number of producers of Rooibos ranges between 300 and 450 farmers, depending on the source being used (TISA, 2004; Hansen, 2006). Areas under cultivation ranges from a few hectares to over 5 000 hectares per farm, but these large-scale producers, but there are only a few of these large producers. Most of the commercial producers are also farming with livestock, potatoes and lucerne (alfalfa). About 40 farmers have Rooibos seedling nurseries as sideline business and some farmers are also involved in growing seedlings for other producers. An estimated 40% of all the farmers have experimented with organic production or have implemented organic production principles on some of their plantations. Nevertheless, one tends to find both organic and non-organic production on the same farms.

About two thirds of these farmers deliver their crops to one processor, Rooibos Ltd. There are currently 42 Previously Disadvantaged Individuals (PDI) farming individually, with between ten and 15 of them owning shares in Rooibos Ltd. There are further two Tea Co-operatives with about 100 PDI members (+-35 female producers) who are actively involved in Rooibos farming. Each of these cooperatives owns a 33,3% share in a Rooibos packing facility in Cape Town (Snyman, 2007). These cooperatives have been specialising in marketing organic and fair trade Rooibos for the export market.

Whilst 20% of the producers accounted for 80% of total annual production, the combined output of the PDI producers, including the two co-operatives, is estimated to be about 2.5% (225 - 250 tons), of which about 50 tons is produced by one PDI Rooibos producer (TISA, 2004).

Snyman (2007) indicates that the second biggest producer grouping is the approximate 40 farmers who are shareholders of Cape Natural Tea Products (Pty) Ltd. The largest independent producer is The Big Five Rooibos Company (Pty) Ltd with its own brand, African Dawn. The rest of the tea is being sold to other processors and buyers, also through annual contracts with a small number marketing their own teas under their own brand names (e.g. Biedouw valley).



Source: Adapted from Biénabe and Troskie (2008)

The main South African industry role players and other downstream agents

There are currently eight South African companies equipped with the facilities to commence with secondary processing, wherein the tea is pasteurised and sifted. This process is highly capital intensive, with very costly machinery. The minimum set-up costs for a plant with an output capacity of 250 tons per year is in the region of R750 000. Pasteurisation fees vary between R2.50 - R3/kg depending on contract volumes and agreements. The cost of transport is on average R2/kg (TISA, 2004). However, as a result of the movement of prices in the energy market as well as the potential introduction of a Provincial fuel levy, these costs may change considerably.

These companies are involved in all levels of the supply chain, to a small or large extent. Together, Rooibos Limited, Khoisan Tea, Coetzee & Coetzee, Cape Natural Tea Products (CNTP), King's Products, Red T Company, Big Five Rooibos Company, and Maskam Redbush are responsible for an estimated 95% of total annual supply and sales (TISA, 2004) For that reason Snyman (2007) considers them to be the main players in the supply chain. Most of them have positioned themselves as marketers. Four of the processors have their own in-house packing facilities and also offer contract packing services, namely Rooibos Ltd, Red T Company, Khoisan Tea, and King's Products.

Each of these key players has unique competencies through which they position themselves with different service and product offerings. In particular, the Big Five Rooibos Company only sells tea produced on its own farm and thus advertises it as estate Rooibos following the wine industry pattern. Rooibos Ltd still remains the dominant player with approximately 75% market share and a very strong positioning on the domestic market. Other players such as CNTP, Khoisan Tea and Coetzee & Coetzee have diversified their marketing scope and also offer products ranging from indigenous tea blends to vanilla, raisins and other dried fruits (TISA 2004).

There also exist *packers*: companies that specialize in end-consumer packaging. The set up costs of a packing plant with a 100-ton capacity are about R1.5 million. Contract packing fees range from R20 – R30/kg and depend on the type of boxes and filter paper materials that are used (TISA, 2004). These consist of packer branders, of which National Brands Ltd is the largest, contract packers that service local brand owners and exporters without packing facilities, as well as private label customers (e.g. supermarket brands). In addition, one new Black Economic Empowerment (BEE) Packing Plant, Fair Packers (Pty) Ltd, was recently established in Cape Town for packaging tea from PDI Co-ops for the Fair Trade market.

After packaging, distribution, both on a local and international scale, is done by roughly 25 enterprises within South Africa. Most of these enterprises are also involved in business with other natural products, ranging from Honeybush, other herbal teas and medicinal herbs to wine and cosmetics.

Snyman (2007) also indicates that there are currently three main manufacturers specialising in value-added products like extracts, instant powders, flavours, etc. They do not only focus on Rooibos but also use other natural products such as Honeybush, Sutherlandia, Buchu and Hoodia. In cosmetics, the market leader is Annique (Pty) Ltd, the same company which

initially sold the “Rooibos” name to Burke International. Generally, Rooibos cosmetics, toiletries, iced teas etc. are manufactured on contract and only form a small portion of suppliers’ operations.

3.4 The Rooibos market

According to projections by the United Nations' Food and Agriculture Organisation (FAO) in 2000, world tea production should reach an estimated 3,4 million tons in 2010, with herbal/fruit teas accounting for about 100 000 tons. Consumer demand for herbal, green and other health teas is likely to outstrip production and could see an upward trend in price levels. In Britain, the world’s biggest tea drinker apart from Turkey, black tea sales fell from 127 million kilograms of tea bags in 1997 to 114 million kilograms in 2002, whilst sales of fruit and herbal teas rose by almost 50 percent. The hot drinks sector in the Netherlands declined by 0,5% in the 2001/2 sales period, yet the market value of tea increased by nearly 4% through the sales of herbal and fruit infusions. Even in the Germany, the world’s largest importer of herbal tea products which has a mature tea market with intense competition, the tea sector grew by 10% in terms of volumes in 2002, purely through fruit and herbal teas. Rooibos is increasingly claiming its share of this growing market, with international demand surging since 2001 (see table 1 below). In 2005, total exports were 5 500 tons of which 4000 tons were exported to Germany (70%), 550 tons to the Netherlands (10%) and 400 tons to Japan (6%). Other significant export markets include the United States, Australia and the United Kingdom.

Contrary to the domestic market which has remained quite stable, the export market has seen huge growth over the past decade. According to Gress (2004), Rooibos still has a huge market potential before reaching saturation in its main export markets. Indeed, Rooibos is generally regarded as a healthy beverage due to its low tannin content and because it is caffeine-free (Morton, 1983). These health attributes are considered to be key assets for the continuous growth of today’s competitive herbal industry (Standley *et al*., 2001).

As already mentioned, approximately 95% of Rooibos is exported in bulk loose leaf format and Rooibos export marketing is dominated by a few leading German tea importers, which are the largest tea brokers in the world. These firms buy Rooibos in bulk for blending and resell it to other countries. These brokers are claimed by Snyman (2007) to benefit more from this uniquely South African product than South African companies itself, through value addition in their own countries. The German market is very price sensitive, and a commodity style exchange takes place with frequent price wars between the Rooibos exporters.

It was argued previously that primary Rooibos processing is dominated by 8 large companies with Rooibos Ltd capturing 75% of market share, supplying about 95% of domestic consumption and between 50 and 60% of the export market. TISA (2004) estimates indicate that Rooibos Ltd sold close to 4 000 tons of Rooibos in the domestic market in 2003. This amounts to a local turnover of approximately R60 million (at R15/kg). It has long-term bulk supply contracts with National Brands and Unilever Foods, who, apart from owning the leading Rooibos brands (Freshpak, Lipton, etc) with a combined market share of about 75%, also supply Rooibos to most of the supermarket chains for use in their house brands. Rooibos Limited further supplies Joekels Tea Packers of Durban with 15% of the Rooibos

market. However, the recent phenomenal growth in the export market was to a large extent the result of the initiatives from the smaller and more recent entrants.

Four players accounted for more than 85% of annual sales volumes. After Rooibos Limited, the second largest exporter was Khoisan Tea with approximately 15%, followed by Coetzee & Coetzee with about 10% and Cape Natural Tea Products with 6% of the market share. The remaining players together supplied and sold about 1 000 tons of Rooibos. New players will find it difficult to enter the market, because many producers also have shareholding in these established companies (TISA, 2004). In addition to the eight dominant players, there are between 30 and 40 small and medium enterprises throughout the country, mainly involved in export marketing. Examples include Healthwise Foods, Berfin, Just Rooibos and Wings Group. The majority also offer Rooibos cosmetics, other herbal teas, and natural plant products such as essential oils and medicinal herbs in their marketing mix.

In Table 3.1, the sales volume and price information for Rooibos is provided. TISA (2004) argues that international demand for Rooibos has been growing by nearly 35% over the past three years alone. It is evident that sustained growth at this rate would result in serious pressure on the system.

Table 3.1: Sales volume and exports of Rooibos

YEAR	TOTAL SALES	EXPORTS	DOMESTIC	PRODUCER PRICE
	VOLUME (TON)			R/KG
1990	3 900	432	3 468	R1,40
1993	4 200	760	3 440	R3,25
1994	4 100	800	3 400	R4,80
1995	4 200	1 350	2 850	R5,50
1996	4 300	1 400	2 900	R6,50
1997	5 100	1 400	3 600	R3,30
1998	5 100	1 500	3 600	R3,80
1999	5 400	1 800	3 600	R4,80
2000	6 500	3 100	3 400	R5,50
2001	7 530	3 880	3 650	R6,50
2002	8 800	4 800	4 000	R11,00
2003	1 040	6 400	4 000	R12,00

Source: TISA (2004)

3.5 The GI process in the Rooibos industry

The emergence of the GI initiative and the set up of the GI committee

The Rooibos case is being prepared for submission as a GI to both the South African government and the European Union. Several factors have given rise to the development of the GI initiative. From the industry point of view, with Rooibos currently not produced elsewhere and with the increased international demand for Rooibos tea, there is a threat of possible delocalisation of the production outside the country. Another more immediate

threat arose with the registration of trademarks on the name Rooibos by different companies in different countries. This resulted in the major legal battle in the United States that made Rooibos famous.

One of the consequences of the Rooibos trademark dispute in the US was the establishment of the South African Rooibos Council (SARC) in April 2005 as a Section 21 Company. Under South African Law a Section 21 Company is a not-for-profit organisation. The vision of the SARC is "a stable, cohesive and internationally competitive Rooibos industry that will ensure future sustainability to the benefit of all stakeholders (Snyman, 2007). Although it is still in its infancy, it represents the whole industry (small and commercial producers, labour, processors etc.) and is an ideal vehicle for collective action.

One of the key strategic objectives of the SARC is now to protect the Rooibos name for the industry and to ensure that the name is not misappropriated in future. Previously, the efforts for organizing and improving coordination among Rooibos producers and processors concerned mainly research aspects. However, this has been evolving with the increased awareness of the need to protect their product and markets, and the perceived risks of quality degradation. Although the industry already indicated an interest in GIs, actual discussions on the topic mainly took place as a result of the IPR DURAS project's engagement with the industry from early 2006.

The initiative departed with a capacity building workshop for small-scale farmers. This was followed by a meeting on 31st of May 2006 which was attended by the whole industry, in order to raise more awareness on the GI potential for this industry, assess its interest in developing a GI and agree on mutual commitments to explore the Rooibos potential as a GI. This resulted in the appointment of a task team or committee during the SARC Annual General Meeting on 11 October 2006. This Task Team consists of a representative of the processors, marketers, commercial farmers, emerging farmers as well as a representative from the NGO environment. It is supported by two researchers from the IPR DURAS project who facilitate the debate and provide, when asked to, information on GI related issues, as well as a consultant from the provincial nature conservation agency, Cape Nature, in charge of implementing a Rooibos biodiversity strategy.

Following the establishment of the GI task team, several meetings were held during which the product specification, which constitutes the core of the Rooibos industry's application for registration of a GI in the European Union, was developed. The process which was followed allowed the actors to appropriate the key dimensions of GI protection and labelling and to foresee its merits with regard to the current challenges which they are facing. It thus reinforced the industry interest in this tool. With respect to name reservation, a key dimension is the role that GI could play in collective quality management and control. Indeed the industry is looking for international protection and control of quality against abuse and misuse. The sustained increase in demand and lack of quality standards for Rooibos give rise to opportunistic behaviours both from South African processors and traders - who need to create their space in a market strongly dominated by Rooibos Ltd - and from European buyers, on export tea quality. A particularly important dimension is the quantity of stick in the Rooibos tea, which increases the volume but can degrade the quality and is used in defining different grades. Up to now, these grades are not perfectly shared among the

industry. The subsequent risk of degradation of quality, and thus risk of loss of reputation, is perceived as an important threat by some actors. Furthermore, with the dynamics of innovation in the industry and the huge product range (not only the herbal tea blends but also cosmetics, soft drinks etc.), it also becomes more necessary for the commercial viability of the industry to ensure that it is in fact Rooibos which is used. With the expansion and opening of new markets, the need for standardization becomes critical. But with more than 90% of the production sold in bulk and the European market being dominated by a few international tea brokers from Germany, control on overseas markets is very difficult. For this reason the development of an envelope of quality standards is a priority of the current GI initiative. Another important dimension which arose with the intent to establish best practices as part of the GI specification is the biodiversity conservation aspect, with the incorporation of biodiversity related specification as further discussed below.

Final agreement was reached regarding many points of the GI specification as described below. This was the result of a pragmatic approach in the committee and an interesting balance in the process between not excluding farmers, being able to take advantage of new opportunities and ensuring a strong enough specification. As a result, the Task Team is close to finalising a product specification that will make provision for quality, traceability and inspection concerns. At its most recent meeting the decision was taken to apply for a geographical indication in South Africa and a local law firm was mandated accordingly. Indeed, agreement was reached to activate the legal proceedings to ensure appropriate local protection as a step towards an EU application. It was decided to first apply for registration for a GI in South Africa under the current framework using the draft specification prepared for the EU application. At the same time a letter was sent by the industry to the National Department of Trade and Industry in order to inform the government of the industry's desire to register a GI in SA and in the EU and to ask for a more appropriate legal framework.

Developing a product description for Rooibos

It is important that the SARC has fully accepted ownership of Rooibos as a potential GI and the whole case study with its potential future registration as a GI is being driven by this body. As mentioned, developing a product specification lies at the core of establishing a GI for Rooibos. The industry is in the process of finalising this specification. It is important to note that this specification is based both on consensus but also on the need for good scientific evidence for each of the elements. The first part of the specification is the delimitation of the areas, and the industry has initially identified five conditions that need to exist for the successful production of Rooibos. These are:

a) It must in the winter rainfall area.
b) The substrate must be a derivative of Table Mountain Sandstone.
c) It must be deep, well drained sandy soils.
d) The ph of the soil must be below 7.
e) It must be in the Fynbos biome.

By using these criteria and the data in Schulze (1997) for winter rainfall areas, SIRI (1987) for soil and substrate data and Mucina and Rutherford (2006) to define the Fynbos biome, Wallace (2007) identified the delineation as indicated in annexure 4.

During one of the regular meetings of the GI Committee this map was submitted for discussion. However, the Committee had three concerns with the map. In the first instance, the committee was concerned with the fragmentation of the area and the subsequent administrative burden that would be placed on any implementation agent. The second concern was the fact that the map actually excluded certain known Rooibos production areas at the mouth of the Olifantsrivier. The third concern, voiced by the representatives of Cape Nature, was the fact that the protected areas, (i.e. the Nature Reserve at Cape Point) were included in the map. For these reasons the criteria were adapted as follows:

a) It must fall within the winter rainfall area of South Africa,
b) It must fall in the Fynbos biome,
c) Protected areas must be excluded,
d) The resulting area must be calibrated with the area where Rooibos occurs naturally.

The same data sources were used as in the previous round with additional data provided by Paryze (2007) to identify the natural occurrence of Rooibos in the wild (Wallace, 2007). The resulting map is provided as annexure 5. It was generally accepted by the Committee as a good representation of the actual and potentially feasible Rooibos production area.

The second leg of the product specification is production practices. The main elements of the agreed upon production practices include:

a) Production must take place in the delimitated area.
b) Biodiversity standards are being developed. The reason for this is that due to wild harvesting, production expansion and changes in the crop patterns, biodiversity and the well being of natural resources are under threat.
c) It must be produced under dry land conditions.
d) However, irrigation is allowed on the condition that no irrigation takes place within the two months prior or during harvesting.

The third leg of the product specification is the harvesting standards. Only two important elements were identified namely:

a) It must be annually harvested.
b) At least 20% of the leaves must be retained.

Probably the most important part of the product specification, but also the part containing the most sensitive elements, is the section which deals with processing practices. The main elements include:

a) It must be delivered to the tea court within a specified time.
b) The green material must be cut to a specified length.
c) It must be placed in a specified manner in the sun and wetted to aid fermentation.
d) The leaves must be bruised for fermentation.
e) No catalysts may be added to the product in order to facilitate fermentation.

f) Odour and colour codes have been agreed upon for the fermented product.
g) Following the fermentation the product must be spread in the sun for drying. Due to the specific harsh conditions in this area, the exposure to the sun provides a further link to the specific delimitated area.
h) It must be dried in the sun to a moisture content of less than 10%.
i) It must be stored in a cool, dry place.
j) All health regulations must be adhered to.
k) The tea court itself must be in the delimitated area.

In order to address the key questions related to quality definition, measurement and control, consultations were organized with all the Rooibos processors and their quality managers. This process is still under way.

With the exception of the delimitated area, a separate and distinct product specification has been developed for Rooibos as a green tea. Certain key elements of the product specification have not been completed yet. These include the social elements of the specification as well as the sections dealing with the inspection and certification processes. As soon as these have been agreed upon, a more detailed cost/benefit analysis can be completed.

Although certain questions and challenges still remain in the Industry, it is clear that there is momentum in the Industry for the valorisation and protection of Rooibos. This momentum is not only at producer level, but also on an institutional and consumer level. The industry is already in the process of seeking protection at domestic level. It is preparing its application for registering the name Rooibos in South Africa as a collective or as a certification trademark in the name of the SARC with a view to seeking international registration and in particular European Union, once the product specification is completed.

Biodiversity and Rooibos

The intensification of the production practices and expansion of the production area is a strong concern for the Rooibos industry from an environmental point of view, due to its biodiversity implications. Thus, in addition to the promotion of biodiversity best practices as part of Cape Nature activities, biodiversity related elements have been inserted into the development of the GI process to reinforce the biodiversity strategy. The process of building biodiversity aspects into the product specification consisted of different steps. The Cape Nature consultant compiled a list of Rooibos practices which have biodiversity implications. A sample of producers from the different production areas were then consulted in the matter. The result of this consultative process was then extensively debated during a task team meeting and the most relevant biodiversity related practices were incorporated into the product specification for Rooibos.

Rooibos GI strategy prospects

The advanced level of quality differentiation within the industry, which has until now been managed through individual or restricted collective strategies, can be nicely complemented by a GI collective qualification. Future prospects could be to consider the GI as an umbrella

under which different specifications are defined to account for the different qualities associated with different 'terroirs' and processes of production. This could reinforce small-scale farmers' communities, which have built a unique differentiation strategy and market access for their production based on fair trade but which could soon face competition in their niche due to Rooibos plantation fair trade certification. The uniqueness of their production, which does not only stem from their social attributes but also from their settlement in one of the best 'terroir' for Rooibos production, could be reinforced through a GI sub specification. Their position in the market could then be strengthened. However it is worth mentioning that this has not yet been widely discussed within the industry which is first concentrating on properly establishing a GI for Rooibos.

3.6 Conclusion

It is worth pointing out in conclusion that a key driver for the Rooibos industry's interest in developing a GI strategy is its export orientation and in particular the importance of the European market in which GIs are both widely recognised and enforced within a powerful framework. The potential impact of GI implementation could therefore be significant. However, given the international market development of Rooibos outside Europe and the uncertainty regarding the outcome of GI negotiations at international level, the actual effects of GI implementation could appear to be quite uncertain.

Table 3.2 taken from Biénabe and Troskie (2008) discusses the different possible outcomes of a GI strategy for the Rooibos industry according to different scenarios regarding the GI regime at international level. The three scenarios that are considered at international level are those proposed by Gilles Allaire and Bertil Sylvander as part of the SINER-GI project analysis. The analysis departs from a convergence scenario whereby national GI legislations are harmonised at international level and provide for strong protection for all agricultural products. The divergence scenario refers to the case where no agreement can be reached between the advocates and the opponents to a strong enforcement of GIs at international level. The plurality scenario consists of regional agreements regarding GI recognition whereby different understandings and ways of enforcing GIs co-exist.

Table 3.2: Potential responses of the Rooibos industry to various scenarios of the potential outcome of the GI regime at international level.

	CONVERGENCE	DIVERGENCE	PLURALITY
How is it sustaining the scenario	• Flagship case for South Africa's involvement in GI debate • Rooibos forms the benchmark for the development of a *sui generis* system.	• No value in the GI – the sceptics are convinced right. • Other IP tools becoming more important and supported	• The importance of a quality standard coming to the fore. • Range of IP tools being developed and supported
Power	• Power to the land owners • Producers taking the initiative. • New marketing opportunities may develop • Proliferation of producer initiatives. • Entrance of GI into new EU markets? • A credible GI would also give power to the consumer	• Power close to the market. • Power to specific land owners due to altruistic behaviour of certain actors. • Power in the hands of the owners of the quality standards. • Proliferation of quality standards by private actors. • Leading to the debasement of quality standards. • Bulk exports continue.	• Power close to the market • Power to specific land owners due to altruistic behaviour of certain actors • Possible new entrance of GI into important markets. • Need to manage the establishment of quality standards (meta-norms).
GI trajectory	• Can lead to a Rooibos GI • Flagship for national initiative. • Example for other products • Multi-stakeholder initiatives.	• Weak or absent GI • Proliferation of trademarks. • Proliferation of production • Consumer confusion?	• Domestic registration • Registration abroad according to the available "shopping basket" of IP tools
Impact on sustainable development	• Ownership of Rooibos land becomes important. • Increased importance of Land Reform • Value adding at local level	• Ownership of trademarks more important. • Land not that important, BEE rather in the supply chain. • Value adding taking place abroad.	• Who owns the GI / Trademark? • Rent extraction at GI / Trademark level. • Potential for limited value adding for export at local level.

References

Arnold R, Ness M and Tregear A (2007). Report on the UK and German Markets for Rooibos Tea. SINER-GI report, University of Edinburgh, Edinburgh.

ASNAPP (undated). Crop Profile: Rooibos. Report, Agribusiness in Sustainable Natural African Plant Products, Stellenbosch.

Biénabe E and Troskie D (2008). Biénabe E. et Troskie D., 2007. Rooibos Case study. SINER-GI Project report. 57 p.

Bramley C (2005). Geographical Indications and Agricultural Products: Investigating their relevance in a South African context. Unpublished Masters Thesis, University of Pretoria, Pretoria.

Bramley C (2007). A legal synopsis of the protection of geographical indications in Southern Countries. Paper presented at the International Symposium: Promoting Local Specialities from Southern Countries, 23 – 26 April 2007, Addis Ababa, Ethiopia.

Cape Argus (2005). Business Report in Cape Argus, 10 February 2005.

Elsenburg GIS (2007). Geographic Information System, Division of Natural Resources, Western Cape Department of Agriculture.

Gress, T (2004). South African Rooibos Industry. Opportunities and Constraints With Special References To the German Consumer Market. School of Management Studies. Cape Town, University of Cape Town. Master of Business Science: 298.

Hansen T (2006). A Sustainable production strategy for the South African Rooibos Tea Industry. Report commissioned by Cape Nature and SA Rooibos Council. SARC, Cape Town.

Laing S (2005a). Developments in International Trade Law relating to Geographical Indications: How does it impact on South Africa? Legal Report, Tralac, Stellenbosch.

Laing S (2005b). Geographical Indications, trade marks, collective marks and certification marks: How do they all fit together? Legal Report, Tralac, Stellenbosch.

Leclercq M (2006). Localised Production of rooibos in South Africa: practices, territories, and prospects of a Geographical Indication definition. Anthropological research in two small scall farmers' communities, supervised by Cormier-Salem M.-C. and Bienabe E., submitted for the Master2 degree at the Muséum National d'Histoire Naturelle

Mendes E (2001). An investigation into the potential for products of origin in the Western Cape. *Western Cape Department Report*. 154.

Mendes EJ and Troskie D (2001). Changing the rules: an incentive for differentiation?. *Agrekon*, Vol 40 (4).

Morton JF (1983). Rooibos Tea, Aspalathus linearis, a Caffeineless, Low-Tannin Beverage, Economic Botany, 37(2): 164-173.

Mucina L and Rutherford MC (Eds) (2006). The Vegetation of South Africa, Lesotho and Swaziland. South African National Biodiversity Institute (SANBI), Pretoria.

Paryze L (2007). Personal communication. Senior Researcher, South African National Biodiversity Institute (SANBI), Cape Town.

Schulze RE (1997). South African Atlas of Agrohydrology and Climatology. Report TT82/96, Water Research Commission, Pretoria.

SIRI (1987). Memoirs on the Agricultural Natural Resources of South Africa: Land Type Series. Soil and Irrigation Research Institute, Department of Agriculture and Water Supply, Pretoria.

Snyman S (2007). Subsector study: Rooibos Tea. Report completed for the National Agricultural Marketing Council, Pretoria.

Sunday Times (2004). Sunday Times, 3 May 2004.

TISA (2004). CSP Development for Rooibos Sector. Trade and Investment South Africa, Pretoria.

Tralac (2007). Trade Law Centre for Southern Africa. http://www.tralac.org.

Troskie DP (2000). Need for a provincial framework on products of origin". Unpublished working paper. Western Cape Department of Agriculture.

Troskie DP (1998). A perspective on the Port and Sherry Issue (Afrikaans). Unpublished working paper. Western Cape Department of Agriculture.

USPTO (2004). United States Patent and Trademark Office. http://www.uspto.gov.

Wallace M (2007). Rooibos Spatial Analysis. Analysis prepared for the SARC, Western Cape Department of Agriculture, Elsenburg.

Standley LP, Winterton JL, Marnewick WC, Gelderblom E, and Britz TJ (2001) Influence of processing stages on antimutagenic and antioxidant potentials of rooibos tea. J Agric Food Chem, January 1, 2001; 49(1): 114-7.

4. HONEYBUSH TEA CASE STUDY[6]

4.1 Introduction

The Honeybush industry consists of a certain group of products. South Africa, specifically the winter rainfall area of the country, is one of the eight floral kingdoms of the world with a range of unique species that only occur in this part of the world. Honeybush is one of these species. The Honeybush industry is a small industry with a limited number of producers making it more representative of an infant industry than the more commercialised Rooibos industry. Production takes place over a wide range of ecological niches and it is considered that this leads to regional differences in terms of taste, aroma and quality. Another common feature in these types of indigenous products is the coexistence between historical uses by the indigenous population combined with the more recent economic commercialisation that is taking place. In other words, the indigenous knowledge can form a bridge between the various cultures. The fact that the industry boasts a representative organisation is fairly unique given the small number of producers and the wide geographic area it covers.

As a result of the above combination of factors, the Honeybush industry was chosen as one of the selected case studies in this project. The case study report consists of two sections. In the first section, emphasis is placed on describing why the Honeybush industry was considered of interest to the project. This is done by highlighting the features of the product, providing a historical perspective, describing the production process, analysing the structure of the industry and providing an overview of the market for the product. The second section provides a short summary of the GI process to date as well as the main elements that may be included in a product description for Honeybush.

4.2 Product features and specificity

Honeybush tea is an indigenous herbal beverage similar to Rooibos tea, produced from the *Cyclopia* species found in the unique South African Fynbos biome. It grows mainly in the coastal and mountainous areas of the Western Cape and in the wetter Eastern Cape mountain areas (from the Baviaanskloof through to the Bredasdorp area). It has the particularity to be mainly wild harvested (more than 80%). Cultivation of the plant only commenced a decade ago. It is mainly sold as an herbal tea – pure or in blends-, but extracts are also produced for the food and beverage industry to add to various products such as ready-to-drink beverages, fruit juice mixtures and sweets as well as for the cosmetic industry. A flavour extract is also marketed. As in the case of Rooibos, it is known, at least locally, for its health property (anti-oxidant, anti-allergic, anti-mutagenic and anti-cancer properties).

Honeybush has recently become a commercial crop, with a production of 221 tons in 2003 (DTI, 2004). More recently the production varies between 350 and 500 tons of processed tea per year. It follows that this is still a very small industry. However several factors indicate its potential for growth: a growing local and overseas demand, interest from farmers for

[6] Estelle Biénabe, Dirk Troskie & Phumlani Mentani

Honeybush cultivation and interest from different public institutions to support the development of the industry.

Twenty-three species of Cyclopia which grow in different areas have been identified. Of these, mainly three are used commercially: C. Intermedia, C. Subternata and C. Genestoïdes. C. maculate and C. sessiliflora are also used but to a much lesser extent. C. Intermedia grow mainly in the Tsitsikamma, Langkloof and Kouga area and is the main wild harvested species. C. Genestoïdes is found in the coastal, sandy areas from the West coast to Mossel Bay and C. Subternata grows mainly in the Tsitsikamma and in the Langkloof area in milder micro-climatic conditions when compared to C. Intermedia, and in the Outeniqua and Langeberg mountains. The latter two species are those used mainly for cultivation.

The Honeybush industry is predominantly located in the Langkloof region in the Eastern and Western Cape with most of the wild tea harvested in the Tsitsikamma and Kouga mountain ranges. It is estimated that there are approximately 30 000 ha of Fynbos, including the Tsitsikamma, Kouga, Baviaans, Langeberg and Swartberg mountain ranges, where wild Honeybush grows sporadically (Joubert and Joubert, 2006). A recent survey by the Western Cape Department of Agriculture has provided an accurate overview of the occurrence of the three commercially produced Honeybush species in the Western Cape (Newman, 2007). This data is presented in Figure 4.1

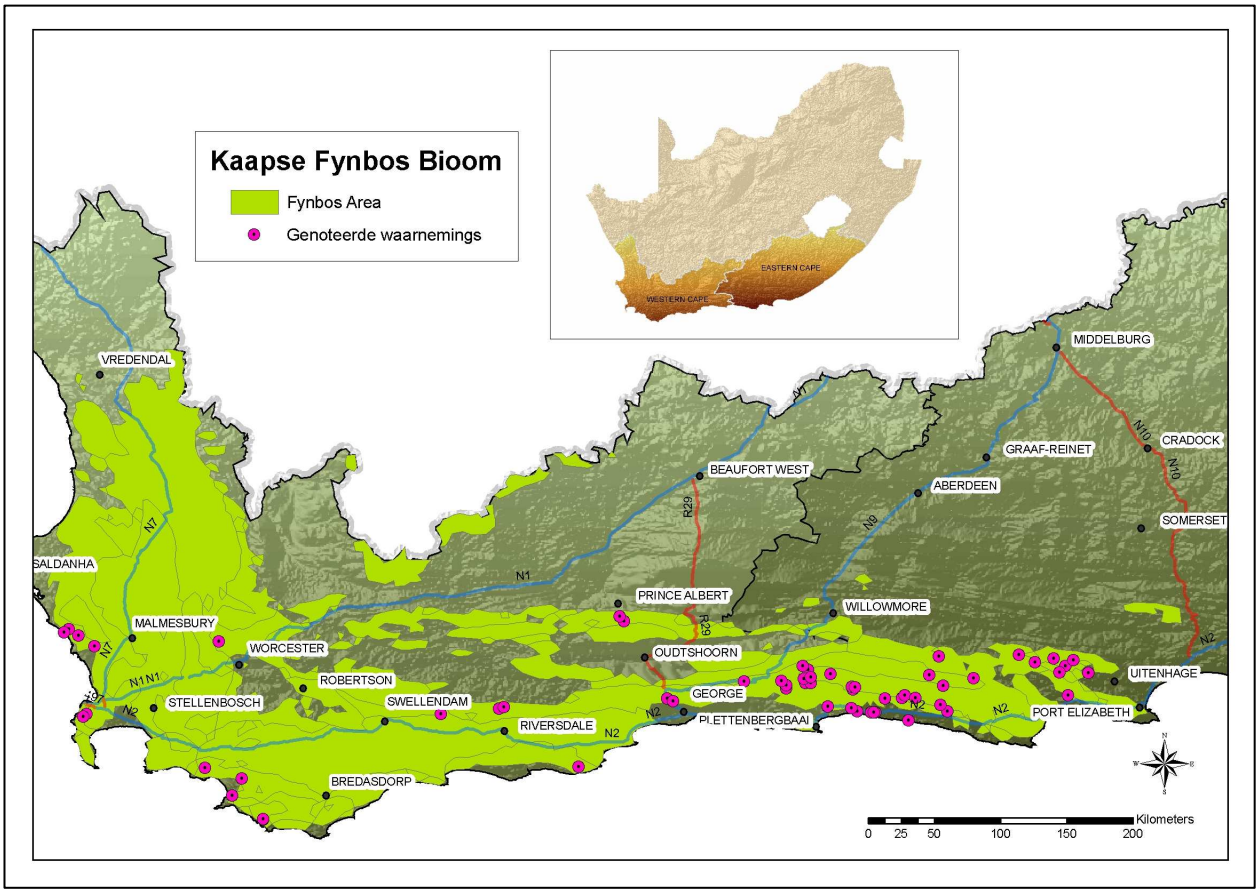


Figure 4.1: Occurrence of selected Honeybush species in the wild
Source: Newman (2007)

It is estimated that there are approximately 4 500 hectares of land that is suitable for the production of Honeybush tea. This area runs in a belt from Montague, through the Little Karoo and to Kareedouw in the Eastern Cape. Of this area there are currently about 230 hectares being cultivated with predominantly C. Subternata and C Genestoïdes being used. There are currently 8 commercial growers of Honeybush tea and they contribute 20% to the annual production. It is interesting to note that some of these areas under cultivation are owned and managed by the Haarlem and Ericaville communities. In 2004 these communities had respectively 10 and 5 hectares under cultivation and, with financial support from the Department of Economic Affairs and Tourism of the Western Cape Province, they expect to increase it to approximately 35 and 15 hectares under cultivation (DTI, 2004). The main production areas are provided in

Figure 4.2 and the distribution of species used for commercial purposes in Figure 4.3.

Figure 4.2: Map of the main agro-ecological zones of Honeybush production.
Source: Blanchard and Biénabe (2007)

The highest concentration of processors is located in the Langkloof region, where Honeybush tea has been intensively harvested for several centuries in the mountain areas of the Kouga, Baviaanskloof and Tsitsikamma range. Processors located in the coastal region and in Langeberg mountain range procure wild Honeybush tea from Kouga and Tsitsikamma. The processing plants are generally located on the farm or property of the owner. Proximity from the supplier is not a consideration in choosing the location.

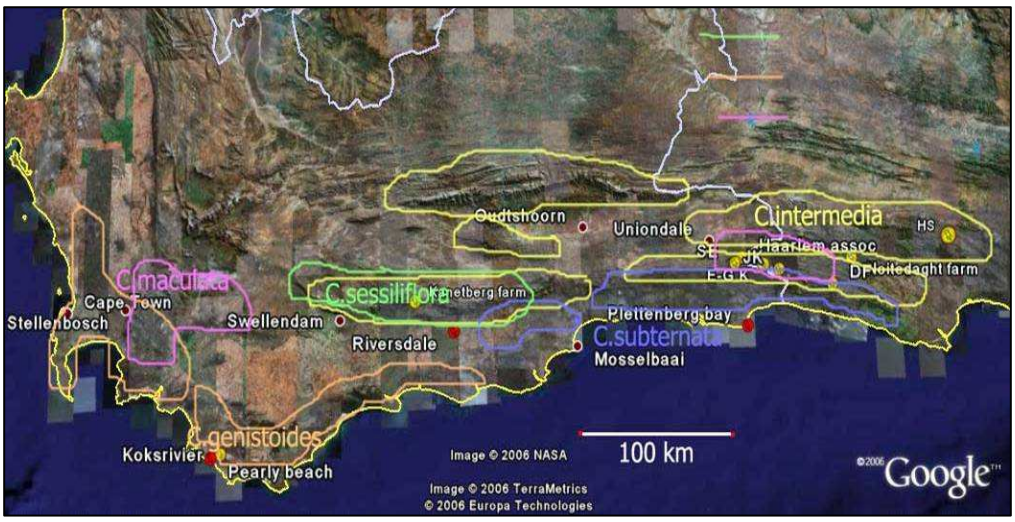


Figure 4.3: Map of the usual commercial occurrence of the different Honeybush species.
Source: Blanchard and Biénabe (2007)

There are no specific place-names attached to Honeybush (except for the Heidelberg tea whose name derived from a mountain, but this specific tea is not harvested any more). However, the use of Honeybush as an herbal tea used to be localized with different names attached to the different areas according to the predominant species: C. Intermedia is known as 'berg tee' in Afrikaans or mountain tea; C. Subternata is known as 'vlei tee' in Afrikaans or valley tea, and C. Genestoïdes as 'kustee' in Afrikaans or coastal tea.

During the International Expert Workshop held as part of the Duras Project, an interesting discussion took place around the potential registration of a GI that is not a place name. Although the discussion was triggered by Rooibos as a potential registered GI in the EU, the discussion was extended to include other uniquely South African products. It was maintained that, due to the fact that Rooibos is a uniquely and descriptive Afrikaans name, it may be accepted as a GI while "Redbush", although having the same literal meaning, would be too generic and intrusive to qualify. It follows that "Heuningbos" instead of "Honeybush" would probably have a better chance of being registered (Personal communication, Fernandez-Martos, 2007).

The history of the Honeybush industry

The Honeybush plant was first noted in botanical literature in 1705 (Joubert and Joubert, 2006), at which time it was believed that the Khoisan tribes of South Africa gathered the plant from the wild for its sweet flavour and soothing properties. The first documented medicinal use traces back to 1830 when it was used as a restorative. This was followed by the first chemical and anatomical study on the product in 1881 which found that there is no caffeine present in this herbal drink (SAHTA, 2007). Honeybush tea use forms part of the local culture of both the coloured community and the Afrikaner community.

Up to the 1960's, the tea was processed by local communities, notably the Haarlem community, in the mountains where it was harvested. In addition to being directly consumed, the processed tea was sold to different buyers and middle men, in Haarlem or in Langkloof, who were then procuring for prisons as well as school hostels and hospitals. The

Honeybush tea was cheaper than the black tea, and was used as a substitute for it. During the 1950's, the tea was also sold to factories to be used as a colorant for leather. Some large land owners were also processing tea mostly for own consumption. The first packaging of tea was done in the 1960's under the name "Caspa Cyclopia Tea". From the 1970's, the raw plants harvested by the communities were brought back to the village where the tea was processed. Up to the 1980's, some people were still processing the tea in small amount for own consumption, and were cutting it manually by axes. But demand and production significantly decreased until the late 1990's. Local consumption was driven down by a negative image that became associated with the tea for being a cheap tea consumed by those that could not afford to buy Rooibos or black tea, especially during the apartheid regime (Blanchard and Biénabe, 2007).

The first studies on cultivation and nursery practices were first undertaken in 1993 at the National Botanical Institute at Kirstenbosch. They were followed by an investigation into controlled processing and the establishment of guidelines for processing by the Agricultural Research Council (ARC) (Joubert and Joubert, 2007). Blanchard and Biénabe (2007) report that the first harvest from cultivation took place in 1996. Triggered and/or fostered by researchers (e.g. information days held to create interest from prospective role players), commercial as well as small-scale cultivation production started in 1998.

Despite a long history of production by indigenous people, the tea was only popularized in the late 1990's with the advent of improved technology as well as an interest from international tea brokers.

The production process

It is important to note that a large part of the Honeybush crop is being harvested from the wild. C. Intermedia which, according the DTI (2004), is the most popular export tea is also predominantly harvested from the wild. According to Blanchard and Biénabe (2007), wild harvesting was traditionally undertaken by small harvesting groups from the communities on large-scale farms where important quantities of Honeybush grow in the wild. These harvesters were allowed by the farmers to harvest the Honeybush on their land either in exchange for a share of the benefits or for a fixed amount. Some owners were even allowing wild harvesting from the communities for free as a kind of support to resource poor communities. Honeybush was at that stage not considered as a proper commercial crop. Wild harvesters would usually come back to harvest on the same farms after some time. The extent of the practices depended on the level of the demand. When, in the late 1990's, demand for Honeybush tea increased significantly, new teams of wild harvesters were formed. These small harvesting groups consist of self employed wild harvesting teams – usually coloured people with own/rented vehicle and 3 – 5 helpers. It was estimated that there were 150 low-skilled people self employed and permanently busy with Honeybush harvesting (about 30 picking teams). Some of these groups are still operating while others are not any longer. Indeed, some of the large scale farmers and individuals from outside the communities have become interested in wild harvesting and have been competing with these groups by organizing their own team either with their farm workers or by contracting people from the communities.

In some areas which have been exploited for a long time, especially in the Langkloof area where the Haarlem community is located, it is said that wild Honeybush has been partly exhausted, rendering wild harvesting non profitable or too difficult to undertake. However, no scientific study has been carried out on natural resource distribution and actual availability. Therefore, it is difficult to know whether there is a real depletion of natural stocks of Honeybush tea that can influence the actual supply. According to statements of processors in 2006, there would be no real resource diminution, except in the Langkloof area (Blanchard and Biénabe, 2007).

SAHTA (2007) reports that the main species used for cultivating Honeybush is C Subternata and C Genestoïdes with cultivation currently being limited to the Overberg and the Langkloof. C Intermedia, in turn, seem to be more problematic to cultivate due to the fact that it cannot be harvested every year. It is calculated that the cost of establishing a hectare of Honeybush ranges between R10 000 and R20 000 with yields varying between 3 and 15 tons per hectare. This is significantly higher than the yields of generally less than 2 tons per hectare that is experienced in the Rooibos industry. Producer prices ranges between R2 and R3 per kg.

Honeybush can be cultivated from either seeds or cuttings. It prefers well drained, sandy soils with a low pH and phosphorus content. The soil should also be free of nematodes. The most appropriate time to establish the plants is during winter and before August. Due to the fact that this is a fairly new and small industry, very little fertilisation, irrigation and pest management information is available. More importantly, the limited size of the industry prevents the registration of chemicals. The result is that cultivation practices tend to migrate towards organic principles (SAHTA, 2007).

In the case of species such as C Genestoïdes and C Intermedia, harvesting can start about two to three years after planting. In the case of C Subternata, it can start within one to two years. With the exception of C Intermedia, Honeybush can annually be harvested. The optimum harvesting time and method seems to depend on the type of Honeybush as well as the locality. C Genestoïdes and C Intermedia can be harvested during the period of November to March by cutting it down to ground level. C Subternata should be harvested during the early winter by cutting it to about 30 to 50 cm above ground level (SAHTA, 2007).

Processing entails shredding of the fresh shoots, fermentation or oxidation as no micro-organisms are involved, drying, sieving and bulk packaging. Fermentation is the process required for oxidative and other chemical changes to take place in the plant material, resulting in the development of the dark, brown leaf colour, red-brown infusion and characteristic sweet flavour. Traditionally, the tea was cut manually by axes. Nowadays, Honeybush tea processors cut the tea either with a fodder cutter or with a tobacco machine (guillotine type). This aids in the production of a finer tea and which is quicker to brew (Blanchard and Biénabe, 2007).

The traditional processing method that consisted of a traditional heap fermentation process has also been replaced by a high temperature fermentation process (batch rotary fermentation). This allows for more control over the production processes and for compliance with the export regulations that came into operation in 2001. The duration of

the oxidation process varies between 18 and 72 hours, depending on the raw material used (e.g. species) and on temperature. It is checked according to appearance (especially colour) and smelt. A window in the drum allows for samples to be taken during the process. A specific know-how is attached to the assessment of the duration of the oxidation process. After fermentation the tea is traditionally sun-dried, but it can also be dried in the rotary unit. After drying, the tea is sieved into different size categories, ranging from a coarse cut to dust (Biénabe, 2007).

4.3 The current structure of the Honeybush Industry

As depicted in Figure 4.4, the Honeybush supply chain consists of wild harvesting and commercial cultivation; first level processing (i.e. drying, cutting, fermentation); second level processing/refining (steam sterilization, blending, etc); value-adding and manufacturing (including product development) as well as marketing and sales. Some role players are specialized in one of the steps while others are integrating different segments of the supply chain. One of the role players (the Melmont company), which has been operating in the industry for decades, is managing activities from the wild harvesting process undertaken on the farm to the packaging and marketing of the product both in local and export markets.

In addition to the self employed harvesting teams (a PDI with 3 to 5 supporters) there are a number of commercial farms involved. However, these operations are usually not predominantly Honeybush producers, but are actually fruit or wild flower operations. It is worth mentioning the Mooi Uitsig Trust, a female farm worker equity scheme near Louterwater. There are two major community based farming operations. The one is the Ericaville Farming Trust and the other the Haarlem Honeybush Association (NAMC, 2006). According to the ARC (2008) there are currently 10 commercial production operations which contribute 30 percent to the total annual production.

On the processing side there are seven role-players. Two of these are private companies (Honeybush Natural Products and Cape Honeybush Teas) which represent 66% of the processed Honeybush market. There are also two close corporations, two single owner operations and one trust involved in processing. Just one private company is involved in refining Honeybush tea (NAMC, 2006).

In terms of the employment opportunities in the industry, the claims differ significantly. NAMC (2006) argues that there are about 150 low-skilled individuals in wild harvesting with a further 200 partially or fully employed in cultivated employment and a further 65 in processing. DTI (2004) puts the estimation at about 780 people directly involved in the Honeybush industry with the potential to double its workforce in the near future.

The South African Honeybush Producers Association (SAHPA) was established in 1999 following facilitation by the Agricultural Research Council (ARC). In 2002 SAHPA's name was changed to the South African Honeybush Tea Association (SAHTA). It is a not for profit organisation registered as a Section 21 company (NAMC, 2006). The Board consists of 12 members elected from producers, processors and marketers of Honeybush tea. Its stated objectives focus on production-side issues, but also include promotion of the industry, information sharing as well as supporting its own administrative functionality.

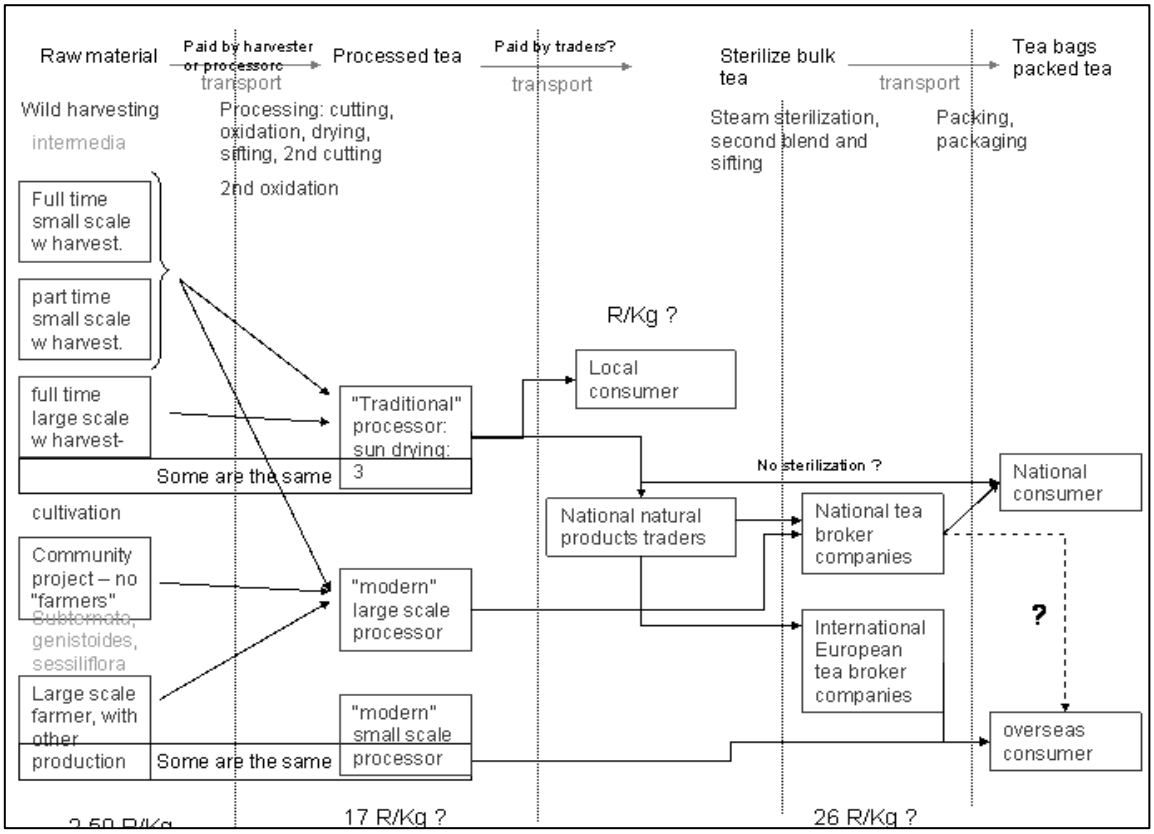


Figure 4.4: Schematic representation of the structure of the Honeybush Industry.
Source: Blanchard and Biénabe (2007)

Due to pressures both from within and outside the industry, the SAHTA is currently in a process of re-inventing itself. Some of the pressures that led to this decision include:

a) The need for growth in the industry.
b) BEE involvement
c) More previously disadvantaged farmers as growers.
d) Promotion and harvesting of Honeybush.
e) Concerns regarding the sustainability of current harvesting practices.
f) Fears of usurpation of the plant material and its intellectual property.

To this end a Strategic planning workshop was held on 29 May 2007 during which it was agreed by the participants that some of the issues that needed attention include:

a) Guidelines for good practice (especially for wild harvested Honeybush).
b) A product description (what is Honeybush). This is necessary due to the substantive variance in the quality of the product, not only between producers, but also between batches of the same producer.
c) Understanding the dynamics between bulk and packed tea. Due to the fact that close to 90% of Honeybush are being exported in bulk, this dynamics needs to be investigated in order to create a base for the long-term future of the industry.
d) Understanding the role of the tea merchants.
e) Analysing the differences between the markets for the different species. Due to the fact that there are differences in taste between the various species, the trend has

been to blend species. However, it may be to the industry's advantage to rather recognise these differences and to build on it.

This Strategic plan, associated with the new structure of the SAHTA, has been accepted at its Annual General Meeting on 25 July 2007. However, it seems as if some of the members have since resigned and a special meeting of members has been scheduled for 4 June 2008.

4.4 The Honeybush Tea market

Since the late 1990's, Honeybush tea is sold mainly on the export market as an herbal tea. Export sales represent between 85% and 90% of all production volumes (including wild harvested supply). Honeybush is exported as conventional, organic (14,5% of total exports for 2005 (ARC, 2008) originating from both wild harvested and cultivated tea, and green tea (recent and small market segment: 4,6%). It will also be exported as certified fair trade by the Ericaville community in the near future. Most of the tea is exported in bulk and repackaged under various brand names. According to the DTI (2004) the result of this is that the value of the 52 tons consumed domestically is approximately R7,6 million, the value of the 169 tons exported in 2003 was only R4,4 million. This provides a clear argument for increased domestic value adding in order to capture a larger share of the economic rent in local communities.

As shown in Table 4.1, export sales have been growing significantly since 1999. The increase in exports in 2005 was mostly driven by orders from Germany that may indicate that one or more leading firms in Europe's tea industry are planning to push Honeybush (Neven *et al*., 2005).

Table 4.1: Export of Honeybush Tea over the period 1999 to 2005.

YEAR	Export (tons)
1999	50
2000	100
2001	60
2002	156
2003	163
2004	100
2005	300

Source: SAHTA (2007)

An increasing number of established international tea brands such as Twinings, Celestial Seasonings, Lipton and Stash have introduced Honeybush or blends in their product basket. The largest export customers of Rooibos are also observed to be the existing and possible future customers for Honeybush and these include Germany, Japan, UK, and Switzerland where health drinks are particularly sought after (Matoti, 2003). Germany is by far the major export market for conventional Honeybush, whereas organic Honeybush tea is mainly exported to the United States (See Table 4.2). Although the import volume into the US is still small, this market has great potential (Neven *et al*., 2005).

Even if local demand accounts for 10 to 15% of annual production, sales on the domestic market have been steadily growing from 5 tons in 2001 to between 15 and 40 tons in 2005. They have evolved from farm stalls and health shops to national supermarket level, with the entrance in the market of leading tea brand owners like National Brands, Unilever Foods SA and Vital Health Foods with Honeybush or blends. Honeybush sales operate in the specialty tea segment of the retail market. Woolworths and Spar, two of the four major retail groups in South Africa, have started introducing Honeybush under private labels. Honeybush has benefited from technological advances in the Rooibos subsector with products such as green (unfermented) Honeybush, extracts, liqueurs, and jams to expand market opportunities. The DTI (2004) is also full of confidence that the Honeybush Industry can emulate the Rooibos industry within the next 20 years and grow to an industry with an annual domestic consumption of 4 500 tons and an export segment of 6 500 tons. This source also argues that, in order to maintain the wild Honeybush resources, 90 percent of this production will need to be cultivated.

Table 4.2: The main export markets for Honeybush Tea: percentage distribution in 2005.

Country	Conventional	Organic	Green Tea	Total
Germany	58,40	1,94	3,58	63,92
United State of America	13,08	7,44	1,04	21,56
Netherlands	4,47	0	0	4,47
Australia	0,01	2,82	0	2,83
Canada	0,65	1,37	0	2,02
United Kingdom	1,75	0	0	1,75
South Korea	0,72	0	0	0,72
Norway	0	0,66	0	0,66
Japan	0,34	0,31	0	0,65
Singapore	0,39	0	0	0,39
Taiwan	0,25	0	0	0,25
Sri Lanka	0,13	0	0	0,13
China	0,13	0	0	0,13
France	0,02	0	0	0,02
Switzerland	0,03	0	0	0,03
Denmark	0,01	0	0	0,01
Total	**80,84**	**14,54**	**4.62**	**100,00**

Source: SAHTA (2007)

Currently, the global demand for Honeybush is greater than the supply (ARC, 2008). Regarding prospects for the future, at least some actors in the industry are placing emphasis on investigating and promoting the health properties of Honeybush, given its desirability on the export and domestic markets. Other actors are also pointing out the potential benefits from increased international social consciousness towards ethical products (Fair Trade). One of the communities has been offered assistance in obtaining Fair Trade certification for its Honeybush by a German tea trader.

4.5 The GI process in the Honeybush industry

The emergence of the GI initiative and the set up of the GI committee

The concept of a GI was not unknown to the Honeybush Industry when the call for unique Southern African products was launched late in 2005. At that stage, the Honeybush Industry had already formed one of the case studies of the Four Province Project and Grant (2005) included this industry as one of the case studies in her research project. It was found that, Honeybush has a strong potential as a GI. This could be attributed to the strong link between the indigenous people and the indigenous product (Grant, 2005).

Partly as a result of the research by Grant as well as a meeting between Mr Nico Malan (the then Chairperson of SAHTA) and Dirk Troskie on 3 November 2005, SAHTA nominated the Honeybush Industry as a case study to be investigated by the Duras Project. The Intellectual Property Capacity Building Workshop with the Honeybush industry took place on 3 May 2006 at the Outeniqua Experimental farm near George. The following issues were addressed during this workshop:

a) Discussion of the various forms of Intellectual Property.
b) Description of the various unique characteristics of Honeybush Tea that may form the basis of a GI.
c) Noting the objectives of the role-players in the industry.
d) Evaluation of the various forms of IP in the industry.

Around the same time a French Master student, Gentiane Blanchard, carried out a five months (May to September 2006) research study on Honeybush tea production and processing, as part of a postgraduate degree in agronomy and rural development. The aim of this study was to explore the question: “Can a GI benefit the Honeybush tea community while conserving biodiversity?”. She adopted both an agronomic and sociologic approach and the research focused on farming practices, characterising their:

a) Variability within the Honeybush production area and among different farming systems,
b) Evolution, and
c) Ecological impacts on Fynbos biome.

The research results from this project were discussed at the SAHTA Annual General Meeting on 26 July 2006. From this research it became clear that:

a) It is a relatively new industry and the processes are still in the process of evolving. It follows that a production specification that is too strict may be to the detriment of the natural development of the industry.
b) The link between the product and human activity, culture and history is tenuous compared to the European experience.
c) The geographical dispersion of the role-players and their part-time involvement complicates the establishment of a GI.

Nevertheless, as time progressed it became clear that some factors contribute to the potential of establishing a GI for the Honeybush industry. These factors include:

a) The Industry is concerned that it may loose the intellectual property associated with Honeybush as well as its name.
b) Grant (2005) argues that Honeybush is being produced in a wide range of locations and this, combined with the range of species, may create an interesting mosaic of regional specialities and specificity.
c) The Industry must address the variance in the quality between producers and production runs in order to create a sustainable industry.
d) There is a representative body that can take ownership of a GI on behalf of the Industry.
e) This body is representative of all role-players in the Industry.

It is clear that the Honeybush industry could benefit from some form of intellectual property protection as well as the rigour that a product specification and a certification process would bring. For that reason the industry was invited at their AGM of 26 July 2006 to nominate a small group of individuals that could work with the project team to develop a product specification. This invitation was again extended during a presentation at the SAHTA farmers-day on 9 March 2007, the Strategic Planning Session on 29 May 2007 and the AGM on 27 July 2007. During the latter meeting a small team was nominated to proceed with the development of a GI for the Honeybush industry. This team consisted of representatives of the following groups:

a) Commercial producers
b) PDI producers
c) Wild harvesters
d) Processors
e) Marketers
f) Support capacity.

Due to the floods of 28 November 2007, the team met again on 13 February 2008. During this meeting, consensus was reached on the way to proceed and the contents of a proposed product description.

Developing a product description for Honeybush

As mentioned, the development of a product description for the Honeybush industry is still in its infancy. Nevertheless, the team tasked with developing a product description for the Honeybush industry has started to reach consensus on the following issues:

a) Quality standards for Honeybush. At this stage provision is being made for the following elements to be included:

    - The length of the cut.
    - Acceptable levels of foreign matter, insects, bacteria and other organisms.
    - Yeast and mould levels.

- Level of fermentation.
- Moisture content.
- Odours, taste and aroma.
- Acceptable residue levels.

b) Delimitation of the area in which Honeybush can be produced will be determined by:

- The Fynbos area.
- The natural occurrence of wild Honeybush species.
- Specific soil types.

c) Harvesting requirements for commercially produced as well as wild Honeybush
d) Processing prescripts
e) Packaging requirements
f) Labelling
g) Transportation and storage
h) The conditions pertaining to blends
i) Provision will be made for Estate Honeybush.

4.6 Conclusion

It was clearly shown in this report that the Honeybush Industry is indeed a very small industry with about ten commercial producers spread over an area of close to 800 km. The preferred growing conditions of the three commercially utilised species of *Cyclopia*, combined with this wide geographic area, leads to an interesting combination of potential quality and sensory niche products.

The industry is still, however, in a crucial phase of commercialisation. The current harvest consists of about 70% wild harvested product. It is evident that any significant growth in the demand for Honeybush could lead to increased pressure on the natural resources with associated threats on biodiversity. As a result, the future of the industry probably depends on a more significant share of the crop being cultivated. This could, however, lead to a niche market developing for wild harvested Honeybush. This trend towards cultivation creates its own dynamics such as the development of new techniques and production practices. It follows that any norm being created must be flexible enough to allow for new practices to develop while still preserving the cultural and production specificity and bio-diversity.

The industry nevertheless stands to benefit from a GI initiative. There is evidently the need to preserve the genetic material and the intellectual property for those people involved in the industry. The realities of the Rooibos case in the USA have made the Honeybush industry aware of the potential dangers while also emphasising the vulnerability of a small industry. The industry is also in dire need of consensus on the quality standards in order to ensure consistency between various producers and even between batches of the same producer. Still, this mechanism must allow for the differences between species and localities. Finally, the industry is in the fortunate position that it has a representative body that can lead the process and act as custodian of the intellectual property of the industry.

References

ARC (2008). ARC Honeybush Research Programme. Website of the Agricultural Research Council, http://www.arc.agric.za/home.asp?pid=4051

Blanchard G and Biénabe E (2007). *Honeybush Tea: An emerging product with rapidly evolving practices: Which quality strategies?* Unpublished Report, Department of Agricultural Economics, Extension and Rural Development, University of Pretoria, Pretoria.

DTI (2004). *Customised Sector Programme Industry Analysis for the Honeybush Tea Industry*. Department of Trade and Industry, Pretoria.

Fernandes-Martos A (2007). Personal Communication. Advisor to the EU on GI, Brussels.
Grant, C (2005). *Geographical Indications and Agricultural Products: Investigating their relevance in a South African Context*. Unpublished M.Com Thesis, Department of Agricultural Economics, Extension and Rural Development, University of Pretoria, Pretoria.

Joubert M and Joubert E (2006). Status Report on the Honeybush Tea Industry. :Unpublished report, ARC Infruitec-Nietvoorbij, Stellenbosch.

Matoti B (2003). *Economic Analysis of Honeybush Production in the Western Cape*. Internal Report, Western Cape Department of Agriculture, Elsenburg.

NAMC (2006). *Subsector Study: Honeybush Tea*. National Agricultural Marketing Council, Pretoria.

Neve D, Goliath J, Reardon T and Hopkins R (2005). *Case Studies of Farmer Organisations Linking to Dynamic Markets in Southern Africa: The Haarlem and Ericaville Honeybush Producer Groups, South Africa*. Occasional Paper, Michigan State University.

Newman RA (2007). *Identifisering van geskikte areas vir die verbouing van drie kommersiële heuningbostee spesies*. Honeurs Tesis, Universiteit van Stellenbosch, Stellenbosch.

SAHTA (2007). Honeybush Industry. Proceedings of the Honeybush Farmers day, 9 March 2007, Kanetberg, Riversdal.

5. KARAKUL CASE STUDY[7]

5.1 Description of the main features of Karakul production and its specificity

Description of product and use

The Karakul lamb pelt is distinctive for its softness, its water-silk markings and lustrous, wavy curls. Most pelts are black, due to a dominant black gene, but other natural colours are grey, white, silver-grey, pink and brown. Karakul pelt is also known as Persian lamb, or sometimes as Astrakhan. The Karakul pelt has a wide range of applications. Furriers like the product as it can be combined with other fur, knit wear and the leather side can be printed. The fur is ideal for reversible garments.

The Karakul sheep (Ovis aries platyura) is believed to be one of the oldest breeds of domesticated sheep in the world. Originally from the steppes of Turkistan, this broadtailed sheep (so called because of the reserves of fat stored in its tail) gradually spread to other regions of Central Asia. The breed is named after the village Karakul, which lies in the former emirate of Bokhara (now Uzbekistan). Today Karakul sheep are farmed predominantly in Afghanistan, central Asian republics of the former Soviet Union and Namibia. They are possibly the only animals that can survive the harsh, arid conditions of these regions while providing both a source of food and income to local people.

The Namibian Karakul has been selectively bred to produce the flat "broadtail look". Broadtail is the term used by the fur trade to describe the pelt of a still-born Karakul lamb, where the mother has aborted naturally as a result of the harsh weather conditions, natural illness or pregnancy difficulties. Broadtail pelts are extremely rare and only account for a very small percentage of overall Karakul production. The broadtail pelt is flatter, softer and silkier than the traditional curly young lamb pelt. The term "broadtail" is also used to describe the pelt of a young lamb that has been specifically bred to achieve the same look but the pelt is from a naturally born Karakul lamb rather than a still-born.

Swakara is the brand name for the pelt produced by the Namibian Karakul lamb. The name is derived from South-West Africa, the former name of Namibia (South-West African Karakul). The unique characteristic of the locally produced pelts makes Swakara pelts easily distinguishable from Karakul pelts produced in Central Asia and Eastern Europe.

Other Karakul products

Karakul sheep are bred for their milk, meat, fleece and pelt. Mutton from the breed has a distinct taste and local communities prefer meat from Karakul to any other meat. A by-product of Karakul is wool. All wool is being taken up by the local Karakul weaving industry comprising about 15 weaving enterprises. Rugs for wall and floor decorations are skillfully designed by indigenous farm worker families. The colours used represent natural colours but on request the wool is being dyed to suit the client's needs. The motives are typically

[7] Bernd Rothkegel and Estelle Biénabe.

African and depict rural scenes, animals and plants but fantasy creations are also in demand. The carpet weaving industry is now 55 years old in Namibia and most of the weaving enterprises are found on Karakul farmsteads, providing employment and a stable source of additional income to the wives of farm workers.

Know-how, history and culture

Karakul has been bred in Namibia since the early 1900's. The Karakul sheep was introduced into Namibia in 1907. Due to the proximity, suitable rangeland conditions and economic integration in terms of the Southern African Customs Union, Karakul sheep production expanded to member states and in particular to South Africa and Botswana.

During the 1920's, intensive research work done by AD Thompson resulted in the flat curl that became popular in the international fur markets. The flat curl type is still sought after and contributes to the higher prices obtained compared to other Karakul producing countries' average prices.

Another very important dimension in the uniqueness of the Swakara Karakul pelts is that the pelts of all producers (after the pelts have been identified by means of a bar code) are aggregated before undergoing a very refined selection and assortment process. This system of aggregation of all producers' skins and sorting into homogenous classes and grades is not practiced in other Karakul producing regions and as a result bundles of skins do not match in size, curl type, pattern and quality. The assortment system for Swakara has been with the industry for decades and it is believed that it originates from well before 1920. Over time the system became more complex and changed to provide for the flat curl that was developed in southern Africa. The assortment system is a common good of the Karakul industry of Southern Africa.

Production processes

During the course of the 99 years of Karakul production in Southern Africa, local production techniques were developed which are unique to the sub-continent and which underlie the uniqueness of the Swakara pelts. While little is known on the production methods in the Asian countries, i.e. Afghanistan, Uzbekistan, Kazakhstan and Romania, it is a known fact that Southern African production methods are specifically based and far advanced in terms of breeding policy, farming methods, herd management and rangeland management.

Producers have moved away from a throughout-the-year breeding season to two to three shorter controlled breeding seasons. This allows time for other farm work and periods of rest for the animals. Breeding stock is normally obtained from the many stud breeders. All breeding stock that is sold at auctions must have been approved by the Namibian Karakul Breeders Society (KBS). The KBS have since 1929 required that all stud lambs have a full pedigree of ancestors as well as a detailed description of hair and curl qualities accompanied by two photos (back and side view). By way of this detailed progeny history, producers decide on a breeding program for each sheep.

Because of the climatic conditions, only a small proportion of new-born lambs (20-30% depending on the region and the severity of the weather) can be kept and raised to maturity without damaging the land with overgrazing. In Namibia, 3-12 hectares of land are needed to graze each sheep. The young lambs that cannot be sustained naturally are slaughtered shortly after birth, producing meat, wool, leather and the Karakul lamb pelt. In the majority of cases, Karakul sheep are bred by farmers in areas where natural conditions mean there are no viable alternative forms of agriculture. Single lambs are the rule, but occasionally twins are produced.

All Swakara producers in Southern Africa generally follow the same production techniques to a greater or lesser extent. This applies to all sizes of farming units. Range management is an exception. Commercial farmers are fully equipped with a number of grazing camps and water installation whilst farmers on communal land have no camps and their sheep and other livestock roam free. Without a number of camps, animals cannot be divided into herds with the result that any breeding progress in communal areas is much slower.

Local pelts preparation techniques

The treatment of the raw pelts is standard amongst all producers. Pelts are washed in clean water. No chemicals or preservatives are allowed. The wet skin is put on a frame made from hessian and allowed to dry in the shade for two days. The frames are kept in a well ventilated room. Gauze doors and windows keep flies out. The dried Swakara skin has a unique square shape, because the wet skin is trimmed along the sides. Besides that it gives a better appearance, the straight sides prevent damage during handling.

Other Karakul producing countries do not make use of the hessian frame for drying, but instead the skins are put on the ground, flesh side up, and covered with saw dust. No trimming is done. The dried skin has an irregular shape and is not free from saw dust.

All production techniques were developed by Southern African Karakul producers. There was no contact with Bukhara in Central Asia where the Karakul sheep originated from, with the result that no technology could be transferred. Today other Karakul producing countries in Asia and Eastern Europe know that the Southern African Karakul farmers have developed scientific Karakul farming, breeding, production and research techniques. Requests from Romania and Uzbekistan have been received for technical advice and transfer of technology. Furthermore, they desperately want to get hold of local genetic material. Namibia has a ban on the export of Karakul genetic resources.

The techniques developed have been documented in the Karakul Production Manual and the code of practice. The application of the documented techniques is voluntary and no enforcement is needed. Quality control of the product urges producers to apply these techniques, which have been developed based on best practices over one hundred years.

The Assortment

Like a fingerprint, every Karakul skin is unique. Meticulous care is taken to produce lots that offer the manufacturer the highest degree of uniformity in size, fibre formation, length, weight, quality and pattern excellence. While the modern Karakul assortment has been refined in theory to the level of a science, all measurements are made by hand and eye and

are, therefore, subjective. The sorting of Karakul is and will remain artisanal and will not be mechanised.

One bundle may have skins from different producers. The more uniform the bundles of skins, the bigger the likelihood that processed skins matches to make up a garment. The opposite is also true. Too much variation within a bundle will result in a lower quality product and lower prices for the raw skin.

The system of pelts assortment provides for different classes of pelts based on curl development and fibre length for each of the black, grey, white and brown pelt assortments. Each class is then further graded for fibre quality and pattern excellence. Large and small pelts are not mixed but assorted in separate classes. In practice this could mean that more than 100 bundles of different classes and grades are on offer at the auction. Agra Co-operative, the official marketing agent of the Karakul Board, is using this assortment system. Changes to the assortment are possible and this would be initiated by either producers of Swakara (this would include producers from South Africa or Botswana), the Karakul Board, marketing agent or the auction house. The final decision would lie with the marketing agent.

The assortment is documented in the Swakara *Product Guide* (cf. 2.6). This book shows photographs of the type of skin for every class and gives an overview of the assortment system. The photos are also available in form of posters that can be placed on the wall at a convenient place where grading is done. Grading based on photos is always a subjective method and, therefore, practical demonstrations are held at the producer forum and the norm days. Farmers also have the opportunity to undergo training in the assortment by actually assorting skins for three weeks at the Pelt Centre. These courses can be attended throughout the year. Producers from Botswana and South Africa have attended courses.

Area of production and geographically distinctive features

Today, Botswana produces about 5%, South Africa 27% and Namibia the remaining 68% of Karakul pelts. The main reason for the expansion of the breed can be attributed to the ability to adapt to harsh grazing conditions of the short shrub savannah in the western and southern parts of Namibia and North West Province of South Africa. In fact, the quality characteristics of the skin, like the shortness and thinness of the hair and the lightness of the skin, is directly related to the abundance of grazing. It favours a hot and dry climate. Pests and diseases are more common in areas of dense vegetation and high rainfall. The grazing habit of the Karakul, compared to other breeds is less strenuous on pasture. This, together with the fact that the sheep can be used for mutton production, contributes to the popularity of the breed.

Besides the fact that the Karakul breed is a smaller in both size and mass, the lamb is used for pelt production. It means that Karakul sheep have fewer lambs that need to be raised and therefore, the comparative energy demand of a herd is considerably less compared to mutton and wool sheep breeds. This is then also the reason why the Karakul breed is found in the more arid areas where one would normally not expect any livestock farming activities.

5.2 Level of use, marketing and existing product reputation

Karakul pelts are mainly sold semi-annually at auctions in Western Europe. At present, some 140.000 skins are produced and auctioned per annum. Due to the good prices experienced the past two years, farmers have increased their herds and some farmers have re-introduced Karakul sheep. During the next two years, the pelts production could increase to 200 000 per annum.

Generally speaking, fur is a luxury item and as such most criteria that apply when purchasing luxury goods fits the price formation mechanism for Karakul pelts and garments. Karakul does not have the high status of mink and fox. Furriers are of the opinion that Swakara fur ranks only third or fourth. Swakara is a short haired fur that falls into a niche where competition of other fur is not that tough. Karakul pelts offer a wide range of variability in terms of colour and curl pattern which makes it attractive to consumers. Needless to say that while spending a lot of money on a garment, the consumer would like to be assured that her garment is a unique piece.

Swakara tops the prices of other Karakul pelts by about 25% to 30%. The major factor contributing to premium prices is the scarcity of the product. During the late 1980, five million and more Swakara pelts were pushed into the market, with the result that fur garments were sold by supermarket chain stores. This was one reason the prices for Swakara crashed in the early 1980s. The high standard of the Swakara assortment and grading system and the quality control reduces the risk for the manufacturer and the consumer of pelts that do not match or are of low quality. The Swakara iron-on logo gives the client assurance of quality and uniqueness. The difference in the refinement of the Swakara assortment system with regard to other countries is thus significantly contributing to the price differentiation.

Besides the conventional factors, like cold winters and cash for spending, the latest trend is to show off without offending animal rights groups. Karakul seems to be out of focus of these activists groups. On the contrary, Swakara is produced by way of ecologically sound farming practices. A hang tag gives the customer peace of mind (see point 2.6 in the Code of Practice, labels and hang tags).

5.3 Understanding the current industry framework

Farming systems

There are about 600 karakul producers registered with the marketing agent. The number of producers includes producers farming in South Africa and Botswana. About 30 farmers are exclusively producing Karakul. The majority of farmers rely on other business enterprises as well, like mutton sheep, cattle, trophy hunting, eco-tourism, guest farming and indigenous fruit crop production, for example *Hoodia*. The size of the flock of the farmers ranges from 50 to 3 000 Karakul sheep. Karakul farming is very labour intensive; however, controlled breeding seasons offer the opportunity to utilize time and labour force for other activities.

In the Karakul producing area, customary land tenure is practiced. Land is scarce and grazing, due to the communal grazing system, even scarcer. Resettled farmers from the previously

disadvantaged groups are settled on their own title deed farms. Government incentive schemes, besides extension and veterinary services, in the form of production loans have helped a number of farmers to become well established progressive Karakul producers.

In the Karas Region which is one of the regions where Karakul farming is practiced, the rural population makes up 46% and the overall unemployment of the region in the order of 29%. 30% of the rural population does not own any livestock. 30% of households spend more than 60% of their income on food.

Due to the absence of other income generating activities, government has resolved to introduce the Karakul sheep to these rural communities and have announced a joint venture or partnership programme. At present almost all small holder farmers own a few goats. Goat production cannot be encouraged because of over grazing. Karakul sheep live mainly on grass. Karakul pelts production is less strenuous on the natural vegetation due to the production methods applied. However, in years of abundance of grazing, the sheep can be raised for mutton production.

Supply chain

Joint Marketing of Pelts

Ever since pelts were produced in Southern Africa, the same marketing channels have been used. Over the years Namibia has developed into the main production area and consequently the marketing structures in Windhoek, Namibia, became the accepted market institution for producers from all three countries (Namibia, South Africa and Botswana).

Pelts from within Namibia, South Africa and Botswana are delivered to the nearest Namibian Agra Co-operative branch. From these collection points the pelts are transported via the Co-operative's main branch to the Pelt Centre in Windhoek.

The Pelt Centre

The Pelt Centre is an institution registered in the name of Agra Co-operative (Pty) Ltd. The sole purpose of the Centre is to assort the Karakul pelts into over a hundred homogenous classes. The basis of the classification of pelts are the four main colours, namely black, grey, white and brown as well as the size of the pelts, fibre (hair) length, quality of the hair, pattern excellence and curl type.

Marketing Agent

The Karakul Board of Namibia has officially appointed Agra Co-operative as its marketing agent. Agra has branches across the farming area and its head office and main branch is situated in Windhoek. The Pelt Centre which is an establishment of Agra is fully integrated administratively and operationally with Agra. This implies that pelts that are delivered at the branches are automatically electronically registered at the branch as well as with the Pelt Centre. Furthermore, once the pelts are sold, the payments are processed via the Co-operative's financial department. There is thus no duplication of transactions and administration.

Agra is a co-operative registered under the Namibian Co-operatives Act of 1996. It is an agricultural marketing, service and input provider and comprises of Namibian citizens only. The co-operative is operating only within the boundaries of Namibia. It has 7 291 members and 378 staff. Karakul is the smallest business enterprise of the co-operatives.

Agra, as the marketing agent, negotiates the agreement with the auction house that auctions the Swakara pelts. Due to the small number of white pelts, Agra negotiated a sales agreement for a specific period with a furrier. The price for the white pelts is by way of a formula linked to the prices fetched for the top range of black pelts at the auction.

The marketing agent is also responsible for the packing and shipping of the pelts consignment to Denmark, where the pelts are exhibited and auctioned by Kopenhagen Fur, the auction house.

Karakul Board

The role of the Namibian government is significant in terms of creating a supporting environment conducive for the production of Karakul pelts and promotion of the industry. Government promulgated an Act, the Karakul Pelts and Wool Act of 1982, for the establishment of the Namibian Karakul Board. The Board consists of eight members appointed by the Minister from nominations submitted by the respective organizations. The Karakul Producers Forum nominates four producers representing large and small scale farmers. The Karakul Breeders Society nominates one representative and the marketing agent nominates another. Furthermore, the Ministries of Agriculture, Water & Forestry as well as Trade & Industry appoint one representative each. In addition, the Minister may appoint any other person by virtue of his/her knowledge on the international fur trade. This provides for the opportunity to appoint non-Namibian citizens to the Karakul Board. The Board is by virtue of its legislation a government statutory body. It is not funded by government but rather by imposed producer levies. Government, therefore, has no shares in the Board. The main objective of the Board is to promote the Karakul industry within Namibia and outside. The legislation gives statutory powers to the Board to, amongst others, impose levies and to exercise quality control.

The levies collected from the producers of the pelts are used for the administration of the Board and to finance promotion campaigns. The campaigns aim to expand local production of pelts and enhance the demand for the product in the main markets in Europe, the East and Russia.

The marketing of pelts is not limited by legislation to the Karakul Board or its marketing agent. In fact, under certain circumstance, producers do sell their pelts to manufacturers and furriers of their choice. Unless the pelts have been approved by the Quality Control body, they will not bear the Swakara trade mark.

5.4 Institutional support

Ever since the industry's inception in Namibia, the Namibian government has been a major actor in the Karakul industry. In 1907 the then colonial German government introduced the very first sheep to Namibia. Since the early days of the previous century, there were

government research farms for Karakul. These farms were used to improve the quality of the national flock and to make available quality breed stock to farmers. The unique flat curl is a result of government research and breeding programmes. In 1929, the government declared the Karakul Breeders Society as the sole breeder organization for Karakul sheep and appropriated funds for the administrative work to the Karakul Breeders Society. In 1930, the government issued a ban on the exportation of Karakul genetic material. The ban is still in place today. This ban applied to Southern African Customs Union member states in terms of the 1969 SACU Agreement. The Karakul Industry Advisory Board was established in 1939 under the old South African Marketing Act of 1937. The Karakul Board was established in terms of the South African Marketing Act of 1968.

Due to the political constellation of the two states at that point in time, the Board comprised both South Africans and Namibians. With the commencement of the Karakul Pelts and Wool Act of 1982, the Marketing Act of 1968 and the marketing schemes created there under, including the Karakul and Wool Schemes, were abolished.

Today the government of Namibia still owns Karakul research farms and it possesses valuable Karakul genetic material. During 2006 Cabinet agreed to a partnership between the state and the private Karakul industry to jointly manage and further develop the state facilities for research and training and to further improve the state genetic Karakul resource to the benefit of emerging, resettled and small holder farmers and its neighbouring states. Other industries like the meat and agronomy sector enjoy similar privileges but to a lesser degree.

5.5 Quality Control

In terms of the Act, the Karakul Board has instituted a quality control body comprising producers, the marketing agent and the Karakul Board, with the aim to assure that only pelts that meet the criteria are being sold under the trade marks. Quality control is a requirement in terms of the Karakul Pelts and Wool Act but the quality criteria itself are set by the quality control body. Producers from South Africa and Botswana make contributions if they feel a need to adjust the quality standard (see the section below on Farmer Participation in Standard Setting).

The pelt characteristics have been researched ever since the sheep was introduced into Namibia in 1907. Research work is well documented and training institutions like the agricultural colleges and government's extension services use the documentation for courses and demonstrations. Furthermore, the Karakul norm day was introduced to communicate in theory and by way of practical demonstration the characteristics of the breed and the pelts and to explain the quality control selection criteria and standards. The norms set for the industry and the standards agreed on by the industry as well as the quality control criteria is, therefore, unique in the world and applies only to the Karakul industry of Southern Africa.

Pelts that do not meet the minimum quality standard are destroyed to ensure that they do not enter the market. Quality is defined in terms of hair length, curl and follicle development, luster and elasticity of fibre as well as biological, mechanical and chemical

damage. About 1% skins are rejected for not meeting pelt characteristic standards and another 1% is rejected due to biological and mechanical damage.

Code of Practice, Production Manual and Product Guide

The Karakul Board developed *a Karakul Production Manual* in 1998 to inform on and illustrate production methods and techniques to newcomers to Karakul production. The topics addressed in the manual include:

- range management and grazing density;
- herd composition;
- selection and purchase of rams;
- herd management;
  - breeding seasons
  - clinical and progeny testing of rams
  - lamb season
  - selection of lambs
  - weaning of lambs
- breeding with white, brown and grey sheep;
- record keeping.

In 2004 a *Product Guide* was published. The *Product Guide* is aimed at buyers as well as producers of Swakara pelts. It provides information on the pelt assortment, grade categories and quality aspects. Swakara skins are sorted into over one hundred categories. The photographs contained in the Product Guide are also available on posters. The book and poster are very popular among producers as well as skin dealers and fur traders.

In 2006 a *Code of Practice for the Care and Handling of Karakul Sheep* was compiled. This document is currently being discussed by the industry before it is submitted to Cabinet for endorsement. The final product should guide producers on minimum standards of farming and production techniques applied in the industry. The basis for the *Code of Practice* is animal welfare issues and aspects of environment, rangeland management and matters pertaining to social and labour issues.

Farmer participation in standard setting

There are two regular events which provide a forum for stakeholders of the Karakul industry and in particular producers, to bring matters of interest to the attention of the Karakul Board. During September each year, the Karakul producers gather for two days. This meeting is normally well attended by large, small scale and resettled farmers as well as commercial farmers and new farmers from South Africa. During the two days, the Karakul Breeder Society holds its AGM and, on the day after the meetings, the Keetmanshoop Elite Karakul Ram auction takes place. The main event culminates in the Karakul Forum meeting which lasts one day and ends with a formal dinner and price awarding ceremony. Prices for the Top Ten pelt producers and occasionally the Karakul Board's highest award, the Golden Lamb, are awarded. The latter is a recognition to a person or organization that made an outstanding contribution to the industry.

The agenda of the forum provides for the Karakul Board to inform on its annual activities and, in particular, on observations on and response to its promotional campaigns. The report

gives an overview of the international fur trade as well as an analysis of the prices fetched at the three regular pelts auctions held in Kopenhagen.

Experts inform the forum on matters of interest, including the latest fashion trends, colours and manufacturing techniques and the latest research (e.g. identification of the genes responsible for certain characteristics). Examples of the outcome of discussions at the forum are the *Production Manual* and the *Code of Practice for the Care and Handling of Karakul Sheep*.

Other topics that come up from time to time are the increase in levies to be paid by producers and quality control aspects. A further occasion is the norm day which is held every other year. This day is organized under the joint auspices of the Karakul Breeders Society and the Karakul Board and is devoted to matters relating to quality standards of breeding material, pelts characteristics and pelt assortment. Members of the Quality Control body are present on that day in order to adjust quality standards if so agreed by the producers. The norm day is popular and attended by breeders, pelt producers and beginner farmers and there is a standing invitation to producers from South Africa and Botswana to attend.

5.6 The Swakara Trade Mark

Circumstances that eventually led to the adoption of a trade mark are of interest because it discloses the uniqueness of the product. At the first international pelt exhibition, the IPA in Leipzig in 1930 the then South West African Persian Lamb had had difficulty in obtaining the denomination of a real Persian lamb (i.e. karakul lamb), because it had developed into something new, individual and different. In order to stress this newly developed product in America, the name Swakara has been suggested. This name then developed an identity and consequently became the trade mark.

Today the Swakara trade mark is applied only to pelts originating from Namibia, South Africa and Botswana. Although there is no formal inter-state agreement recognizing the marketing channel under Namibia legislation, the governments of the three countries are aware of the marketing system in place and actually support this type of cross border marketing arrangements.

The trade mark is registered in the name of the Karakul Board under Namibian legislation. It is registered in the Southern African Customs Union member states, i.e. Botswana, Namibia, South Africa and Swaziland. In addition, the trade mark is registered in Italy, France and Germany. For practical reasons in the latter three countries, the trade mark is registered in the name of IMCO, a wholly owned subsidiary of the Karakul Board. Some 30 years back the trade mark was registered in other countries as well, like Canada, Switzerland, Estonia, France, Great Britain, Georgia, Hong Kong, Lithuania, Latvia, Japan and the USA. However, due to the shrinking of the local industry and the high cost of maintaining the trade mark registrations, it was decided to only register the mark in the major export markets.

The Swakara trade mark is an individual trade mark but has characteristics of both a collective and a certification mark. Users of the mark are not members of the Karakul Board, who is the trade mark proprietor. Furriers, fur traders, the auction house and consumers use

the logo to promote their business and image. The Karakul Board hands out iron-on Swakara logo tags, which are very popular, and clients immediately inform the Board if their stock of iron-on tags runs low. This seems to suggest that the trade mark functions to an extent as a certification mark.

The advantage with the trade mark is that the trade knows the logo and is assured of the quality of each pelt and a high degree of homogeneity of colour and quality. A further aspect which is important to customers is the fact that the buyer can actually refer back to the Karakul Board in case of legitimate claims of losses due to damage.

The disadvantages of a trade mark are the financial constraints and bureaucratic procedures associated with the registration process. Trade mark registrations need to be renewed every 10 years. This process is time consuming and expensive. A further limitation is that trade marks are registered for certain categories of goods, like shoes and leather wear, belts, hats and handbags. The mark, therefore, needs to be registered in every class of goods for which protection is sought. An incident arose when an entrepreneur marketed a perfume with the Swakara brand name.

In summary, it is a costly and nearly impossible task to register the trade mark in all countries where fur garments are manufactured and sold. The Karakul Board registered another trade mark and logo for the Italian market 20 years ago. The Desert Rose trade mark was used for about 8 years. Due to fast dwindling of the numbers of pelts produced in the late 1970 and early 1980, the Board discontinued this trade mark. The number of pelts dropped from some 5 million to half a million per year and the Board saw no justification to maintain two trade marks while production was that low. Where in the past the Karakul Board had agents appointed in most of the European countries to promote the product Swakara and Desert Rose, the misuse of the trade marks were limited due to the presence of the agents in these markets. Nowadays, misappropriation of the Swakara trade mark is widespread in that the mark is being used to promote pelts originating from other Karakul producing countries.

5.7 Other quality signalling strategies

The biggest part of the Karakul Board's budget is spent on information and promotion. Various types of qualification and communication strategies are being developed.

<u>Indication, labels and hangtags</u>

Based on the adaptation and suitability of the breed, a slogan emerged characterizing the interaction between Karakul, the natural environment and human factors. Swakara is a top eco-product in line with the global strives towards sustainable utilization of a natural resource to benefit a country and its people. In Southern Namibia there is no better breed to create near perfect harmony between man, animal and nature thereby producing a fur which has no equal in the world. Giving an expert opinion on the Eco-Fur is zoologist, Prof Dr Helmut Hemmer of Mainz, Germany, who says, "*In view of the natural free-range methods used by the Karakul farmers in Namibia, where the soil has not been contaminated by insecticides, one finds a prime example of a Bio-product. The multiple utilization of the animal in the form of meat, wool and fur can well serve as an example to farmers in other*

arid areas". The hardiness of the Karakul sheep and its ability to survive in arid areas ensures human habitation without destroying the balance of nature. While grazing, the animals trample grass seeds into the soil, which would otherwise be carried away by the wind, thus ensuring regeneration of the veld.

Some retail furriers in Europe and the East are insisting on the Eco-Fur Bio-Pelz hangtag which the Karakul Board provides for the use on Swakara garments. A separate hangtag, the "Origin Assured" (OA) mark has been developed for farmed and wild fur to assure customers that their fur originates from a country where regulations or standards governing fur production are enforced. The program represents an initiative by the international industry to offset anti-fur arguments by animal rights organization. It was launched in November 2006 and the Karakul Board has been invited to participate once the Code of Practice has been endorsed by the Namibian government.

Further elements on information and promotion

With a commodity like Swakara pelts that is produced far away from the market, without an agent responsible for marketing and promotion, the Board has to rely on the flow of information to and from the market. The market can be segregated into the auction house, fur traders, fashion houses, designers, manufacturers, fur retailers/furriers and the consumer. Each of these segments has a different function and as such the marketing strategies differ.

For example, the auction house and fur traders are interested to hear about the standard of the assortment, the number of skins on offer as well as the number of skins likely to be on offer at the upcoming six auctions (in other words the next two years). Manufacturers like to learn about the handling and treatment of the skins. This information is necessary because certain skin treatment techniques could negatively affect tanning and dying.

Fashion houses, designers and retailers will ask questions on the quality of the fur (weight, length of hair, luster and curl pattern) because the product has to fit their concept of fashion, colour and design. The final customer, which is the consumer, is more interested in the story around the fur. Therefore, it is important to constantly feed information on the origin (arid south western part of Southern Africa, desert), ecological issues (sustainable range land management, predator tolerant production), farming techniques (sheep farming as opposed to wild fur trapping, code of practice for the industry) and social considerations (labour practices, minimum wages, no child labour, involvement of indigenous communities, upliftment programs of the rural poor). For the consumer, this information becomes even more attractive if linkages to Karakul farming and tourism exist.

The communication channel for the above mentioned market segments also differ. For example, the consumer does not attend the international fur trade fairs. The consumer likes to shop at fur boutiques and read the glossy fur magazines. The traders and, to some extend, manufacturers and furriers attend fur fairs. The auction house, designers and fashion houses might pay a visit to fur fairs. Therefore, the Board has about ten different communication strategies.

Board members and representatives from the industry must attend the major fur fairs to observe fashion, trade considerations, trends and market prospects. At times, the Board hires a booth with the aim to attract customers for business information exchange. Depending on the available budget, the Board acquires the skills of famous designers and reputable manufactures to put a Swakara fur garment collection together which is presented at the fur fairs in Europe and Asia. The aim is to make a fashion statement to boost the demand for Swakara. Besides showing the collection on the catwalk, a brochure, editorial material, photos and posters are made of the collection. The editorials and photos are meant for fur magazines like the Pellice Moda. Special editions publish the information material in the major languages (e.g. English, Japanese, Chinese, Russian, Italian and Spanish). Posters are sought after by the furriers to decorate their boutiques and to attract customers, while the brochures as well as the editorial and photo material in the furs magazines are aimed at the end consumer. The brochure has to inform the client on the origin, environmental and social issues around the production of Swakara.

Newsletters reporting on the figures and the number of skins on offer at the auctions are sent via the auction house prior to every auction to skin merchants and traders. Hang tags and iron-on Swakara logo labels are being supplied to furriers at no charge. Retailers and the customers like these labels. The hang tag – as described under a separate heading – contains useful information on the "bio-pelt from the eco-lamb". As an ongoing promotional campaign, the Board donates skins to schools where prospective furriers are being trained. This has been successful in the sense that prominent designers, furriers and manufactures have been introduced to Swakara and have had the opportunity to work and experiment with the product. Many ex-students of these vocational training centres are still loyal to Swakara and stock the product. At the Frankfurt fur fair, a first, second and third price is annually awarded to the designer of the best garments made from Swakara as displayed at Frankfurt.

The Board has recently created a web site. The target groups are first and foremost skin dealers and traders as they need to be updated regularly on skins on offer and prices obtained. At a later stage the web page will be extended to target furriers, manufactures and consumers.

6. CAMDEBOO MOHAIR CASE STUDY [8]

6.1 Specificity of the product

Description of product and use

The pillar concepts of Camdeboo Mohair are the production of mohair with unique characteristics (certifiable quality, produced in identifiable geographical area, produced according to a value system), that would differentiate Camdeboo from other mohair and serve as the basis for the development of a globally recognisable brand. Scarcer than cashmere, rare and precious, Camdeboo Mohair has many inherent qualities, including excellent crease resistance, good insulation properties (cool in summer, warm in winter) along with the ability to combine well with other natural fibres.

Camdeboo Mohair finds application in a number of diverse products, each with different end uses and markets which include exclusive apparel, knitted and brushed products and upholstery and carpeting. Figure 6.1 below provides a general indication of the end-uses of mohair based on fibre diameter. The markets for products containing mohair varies from home industries that offer craft products to exclusive boutiques that offer custom tailored products like exclusive men's and ladies' apparel and designer furniture.

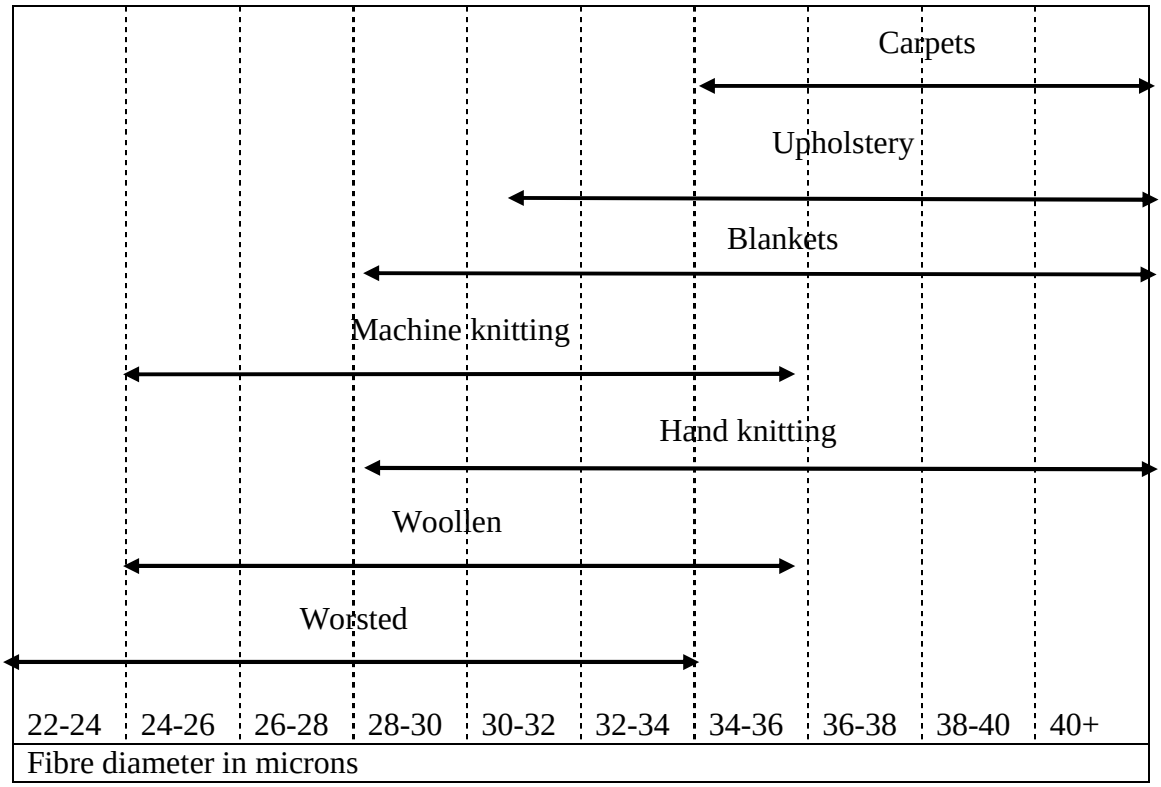


Figure 6.1: The markets and end-uses of mohair
Source: FAO (2005) & Loots (2005).

[8] Danie Jordaan and Merida Roets.

From this figure it is evident that different types of mohair have quite different applications and demand characteristics. Camdeboo Mohair can be used for all of these applications since the Camdeboo clip is made up of the range of microns as depicted. However, the current focus of Camdeboo Mohair is the high quality section of the market, most of which is used in high quality luxury apparel for both men and women.

Evidence is available to show that the value-system that is being used to differentiate Camdeboo Mohair from the general clip is successful in presenting a unique product to the market. Tests were conducted by the South African Wool Testing Bureau on pure Camdeboo mohair tops and standard non-Camdeboo tops, both of similar high quality. Through recognised scientific methods for testing wool and mohair, a number of important physical parameters relating to the quality of the mohair were analysed. These parameters are related to the processing qualities of the mohair and ultimately the quality of the final item that is manufactured from the mohair. The tests revealed that mohair fibre produced by Camdeboo producers would generally be stronger (fewer breakages) and more uniform along its length than the "standard" mohair fibre. This enables the spinning of a finer and more uniform yarn. Furthermore, Camdeboo Mohair is certified free from impurities and is better classed. In other words, a Camdeboo mohair lot is more uniform throughout the bale. This is a particularly important feature when mohair tops are being made up, since inconsistencies cannot be corrected after the top-making processing step and high-end fabric manufacturers require a uniform, sheer and "pill-free" final fabric.

The comfort factor of the Camdeboo yarn was also found to be significantly higher than for a "standard" yarn despite both yarns being spun from similar tops. In all of these instances the Camdeboo mohair was found to have superior processing and final product attributes of like "quality" standard mohair (Reynolds, (2005)). Camdeboo Mohair does not possess these characteristics because of the genetic make-up of the angora goats used nor because of the nutrition that these animals receive. Instead, Camdeboo Mohair's unique characteristics derive from a combination of the genetic make-up of the Angora goats found in South Africa, the unique vegetation and climate of the Camdeboo and surrounding regions of the Eastern Cape and the stringent animal management and clip handling practices used.

The implementation of the Camdeboo Mohair value system requires that producers are compelled (by a membership agreement) to adopt the "best practice system" as described below. As illustrated above, this value system yields mohair of exceptional quality with processing and final product attributes, superior to like-quality standard mohair.

Human factors

Angora goats, known for their production of long, white, and slightly curly, luxurious mohair fibres, were first imported into South Africa via India by Colonel John Henderson, a former British officer, in 1838 (Uys, 1988). The Sultan of Turkey had placed an embargo on the export of Angoras from Turkey at that time, and so the next Angora imports occurred only 15 years later. During that time the original Angora buck and its mother were crossed with the existing, common, short-haired goats of South Africa, and the progeny of these crosses formed the basis of the Angora Goat industry in South Africa. It is interesting to note that

such crosses are avoided at all costs today, because it creates an animal that carries a fibre known as cashgora, that cannot be used either as a mohair or as a cashmere).

By 1880 it was reported that there were between 2 and 2.5 million Angora goats in the Cape Colony (Uys, 1988). Since the first Angora goats were brought to South Africa, the husbandry of raising Angoras and growing mohair has developed and become ingrained as a craft in many families in the mohair producing area of South Africa (The South Eastern Cape Province).

Angora goats are notoriously "high maintenance" in that they are extremely susceptible to adverse environmental conditions and have, unfortunately, developed a weakness to abort. This has been ascribed to the breed's inability to maintain blood glucose levels under stressful conditions (Herselman, Olivier and Snyman, 1998). This constraint has created an industry where the goats require constant and attentive human management interventions and a successful operation requires attentive and timely decision-making on the part of the Angora farmer. At the first sign of adverse weather conditions, farmers are compelled to provide supplementary feeding in the form of grain (starch) which serves to lift the blood glucose levels. A single delayed response to these severe weather warnings, or one day of under-feeding, will invariably result in a mohair clip that will display a severe break or weakness in the fibre (such a weakness is easily detected by "snapping" a lock of fibre between the fingers) or abortion.

Similarly, management decisions must constantly be made regarding selection and breeding decisions. Strict adherence to the Angora Goat Breed Standards is required to produce an animal that produces high quality fibre of a specific diameter, length, character and style, without kemp, that is robust enough to raise healthy kids, without impacting on the health of the animal. A higher incidence of reproduction problems and lower growth rates have been linked to the persistent selection for fibre production (i.e. there is a negative genetic correlation between body mass and fibre production) – this trend is now being reversed through due consideration of this negative correlation and adaptations made to the Angora Goat Breed Standards (Snyman, 1997).

Furthermore, the correct preparation of the clip requires specific skills in fibre classing and shearing management. These requirements are well described in the Mohair Classing Standards (Mohair SA, 2008) attached to this report as annexure 6.

Production processes

Angora goats are generally grazed extensively with shelter provided in adverse weather conditions. The terrain most suited to the production of Angora goats is dry, mountainous and rocky – conditions to which these goats (originally from Turkey) are well-suited. The dryness of the region, furthermore, creates an environment relatively free of internal parasites. The breeding season occurs in March and April (autumn) with kidding occurring in August and September (spring). Generally, the bucks are run with the does for 2 to 3 months over the breeding season. Supplementary feeding may be supplied specifically prior to cold snaps. Whereas fibre length is not very responsive to changes in nutrient status (this is more a genetic characteristic), fibre diameter increases with improved nutrient supply (Reis and

Sahlu, 1994). However, it must be remembered that finer fibres attain higher prices. For this reason, Angora goats are generally not supplied with additional feed but are dependant on the natural grazing, browse and shrubs that occur in the mohair production areas of South Africa. Angora goats are dipped for external parasites and dosed for internal parasites (if required). Vaccination and disease management programmes specific to the production region are followed. Depending on the farmer's production system, Angora goats may or may not be "washed" prior to shearing.

Angora goats are shorn twice a year, usually during March/April for the so-called summer clip and August/September for the winter clip (Van der Westhuysen, Wentzel & Grobler, 1988). After shearing, the mohair is classed on the farm into a number of classes broadly based on the quality of the mohair (length of the clip, style, character and whether the goats shorn are young kids or adults – this roughly defines the fibre diameter). After classing, the mohair is baled into distinctive class lots and either sent to a broker to offer it for sale or to a merchant, who buys the mohair, re-classes it and then also offers it for sale to mohair buyers.

The defining characteristic of the Camdeboo Mohair business system is that it seeks to create a recognised value system that guarantees the quality of mohair produced under the Camdeboo brand name. This, in turn, is supported by agreements throughout the supply chain to safeguard the quality and support the guarantees that are provided. Thus, agents already operational in this field have been licensed to assist in the identification and verification of Camdeboo Mohair.

The Camdeboo Value System entails that certain minimum requirements be met regarding the objectively measurable quality of the mohair and for those producers, to ensure mohair of exceptional quality to also apply certain best practice principles.

The broad outline of the value system includes:

- Producers are to follow basic best production practices for mohair through:
    - Progressive breeding to improve the genetic quality of the Angora goats which would in turn improve the quality of the mohair that is produced (no coloured fibres and no kemp).
    - Optimal shearing schedules to improve the quality of the mohair that is shorn (optimal fibre lengths)
    - Husbandry practices that are conducive to high quality mohair production (zero vegetable contamination).
    - Producers must take preventative action to eliminate pollution from the grazing area through production to the point of delivery.
    - Producers must adhere to accepted grazing systems that are environmentally friendly and conducive to sustainability. The veld of the Angora production area is particularly vulnerable to over-grazing. Thus, correct stocking densities and rotational grazing systems are applied to ensure the long-term sustainability of this particularly dry area.

- High standard of classing (clean shearing and baling sheds, zero contamination, no smoking) – (Generally, the agents must be present at shearing to ensure that these standards are met).

- Producers must adhere to the official classification and packaging standards determined by the mohair industry under the protection of the Marketing of Agricultural Products Act No.47 of 1996.
  - The consistency of the bales is checked before baling.
  - Bale samples are sent for fibre diameter testing.
  - The bales are delivered along with all other mohair to the Auction floor but these bales are marked with a "C".
- Agents still receive commission on the price paid (as with all mohair that they are marketing).
- Camdeboo Mohair is paid 0.8% of the final product price.

Through the implementation of this value system, Camdeboo has achieved a verifiable difference in the pure physical attributes of mohair produced by Camdeboo producers versus that of other (non-Camdeboo) mohair producers. Because of this perceptible difference a premium of 5% to 12% is paid for Camdeboo Mohair on the auction floor.

Indication

Camdeboo is the name of a region in the Eastern Cape of South Africa. Originating from the Hottentot's language, "Camdeboo" is an old name for the eastern plains of the arid and starkly beautiful Karoo region of South Africa. It was the book by Eve Palmer "The Plains of Camdeboo" which firmly established the name. The word Camdeboo is also described as a Hottentot word meaning "thirst-land" characterising the dry and arid climate of this specific region of South Africa.

Area of production (specific geographical boundaries)

The Camdeboo region lies within the confines of the Eastern Cape Province which is also the premier mohair producing area in South Africa and has the most suitable farmland for Angora farming. The Camdeboo region of South Africa has long been recognised, both locally and internationally, as the superior mohair producing area (see annexure 7).

Geographically distinctive features

The suitability of the Eastern Cape, and more specifically the Camdeboo region, for the production of mohair can be ascribed to the historical establishment of on-farm infrastructure (shelter, shearing sheds, kraals, dipping facilities, fencing, etc.) for the production of fibre producing animals (wool producing sheep and mohair producing goats), shrub vegetation that is well suited to the browsing requirements of goats and a predominantly healthy climate relatively free of the serious small stock diseases commonly found in other areas of South Africa.

Although the area known as Camdeboo was first conceptualised in literature in the 1940's, the area between Jansenville, Aberdeen and Graaff-Reinet is also commonly referred to as the Camdeboo Plains from a botanical perspective (Vlok and Euston-Brown, 2002). Over 218 different species of plants were identified in this area which includes Camdeboo Escarpment Thicket, Eastern Lower Karoo and Lower Karoo Gwarrieveld veld-types (Campbell – personal communication).

The specific thicket that occurs here is known as the Sundays River Thicket. The following species of plants are endemic to this specific thicket: *Aloe bowieae, Aloe gracilis, Brachystelma cummingii, Brachystelma schonlandianum, Brachystelma tabularum, Ceropegia dubia, Ceropegia zeyheri, Encephalartos horrida, Euryops ericifolius, Gasteria baylissiana, Glottiphyllum grandiflorum, Haworthia arachnoidea var. xiphiophylla, Huernia longii, Lotononis micrantha, Orthopterum coeganum, Pelargonium ochroleucum, Rhombophyllum rhomboideum, Strelitzia juncea and Tritonia dubia* (Vlok and Euston-Brown, 2002). According to Vlok and Euston-Brown (2002) "….*herbivores are probably particularly important to maintain the dynamics and species richness of the Mosaic with Nama Karoo units along the floodplains of the local rivers. Here species such as Acacia Karoo may become dominant in the absence of large herbivores. A finely balanced sequence of defoliation by herbivores to those by fire is probably periodically required to maintain the species richness of these Mosaic units. Both herbivores and fire thus seem to have played an important part in the evolution of the Sundays Thicket units and the plant species endemic to it. Not all the Sundays River Thicket units are, however, equally resilient against the potential impacts of large herbivores. Especially those of the more arid areas, Sundays Arid Thicket, seem to be very sensitive to the severe grazing impacts. Once the canopy cover of these Thicket units is fragmented, the vegetation is rapidly (and probably irreversibly) altered to a depauperate form of Nama Karoo…*".

There are thus several plants that are endemic to this area and it is alleged that the grazing of herbivores has played an important role in the evolution of the habitat and is, furthermore, important for the continued maintenance of this unique habitat. It must be remembered also, that over-grazing of this area will cause irreparable damage. In the Camdeboo, this finely balanced animal-plant-human dynamic has both created and maintained this distinctive geographical area which is so specifically suited to mohair production.

6.2 Level of use and marketing exposure

Mohair is primarily an export product with the first exports of mohair already taking place in 1857 when 400 kilograms of unprocessed mohair to the value of £10 were exported to Britain (Pringle & Döckel, 1989). During the 160-years of existence of the South African mohair industry, the extent of the industry has increased significantly and during 2003 approximately 5 million kilograms of mohair to the value of approximately R 186 million were exported. By 2008, approximately 680 tons of Camdeboo Mohair had been produced, making it an exceptionally exclusive product.

South African mohair is primarily exported to Europe and Asia, with Europe importing approximately 57.5% and Asia, 41.3% of South African mohair exports. Table 6.1 below

summarises the exports of South African mohair to its respective main export markets as a percentage of the total exports of South African mohair. Mohair exports from South Africa are also very concentrated, with three countries - the United Kingdom, Italy and France - buying 51% of mohair exported from South Africa. If Taiwan and India are included, 77% of mohair exports from South Africa are bound for only five importing countries (Mohair South Africa, 2004).

Table 6.1: Export destinations for South African mohair (1999-2003)
Percentage of total export by weight

Export Region	1999	2000	2001	2002	2003	2004
United Kingdom	33.29	20.75	10.09	15.31	11.30	10.45
Continental Europe	28.83	43.72	36.74	41.35	31.41	48.40
Asia	37.62	34.64	51.57	42.59	57.22	40.06
Other	0.26	0.89	1.61	0.74	0.07	1.10
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

Source: Mohair South Africa (2004).

Collectively, Camdeboo producers produce 12% of the total global mohair clip and almost all of the most exclusive quality mohair available in the world (Camdeboo information brochure). Since its inception, Camdeboo Mohair has built a very strong reputation as a global player in the high quality mohair sector, and this producer-driven company has managed to successfully establish itself worldwide as an authoritative mohair trademark, guaranteeing exclusive mohair quality.

Recent price analyses have revealed that Camdeboo producers earn, on average, 5% to 12 % higher prices for mohair than producers of standard mohair of like quality. The price data reveals that, during 2001, 2002 and 2003 Camdeboo producers earned on average 7%, 13% and 16% respectively more than the overall average market price for the same period (Reynolds, Personal communication, 2005). It is noteworthy how, on average, Camdeboo producers' prices have increased in comparison to average market prices as the Camdeboo initiative has gained momentum.

6.3 Understanding the current industry framework

Collective structure

The Camdeboo concept was the brainchild of six leading mohair producers who recognised the value and importance of collective marketing and the establishment of a globally recognizable brand in combination with a stronger aligned and coordinated supply chain within the dynamic global agricultural marketing environment. The initial group of six producers agreed to form a company, Camdeboo Mohair, during 2000 that would, by including more producer partners, grow to become the world's primary source of exclusive quality mohair. The vision of the company is to produce the highest quality mohair in the world and offer a customer based service in support of this activity.

Camdeboo Mohair is a producer-owned company with membership in 2008 totalling some eighty-four South African mohair producers, who are primarily located within a radius of

300km from Port Elizabeth. Membership is obtained on payment of the R 4500 membership fee, followed by permission granted for Cape Mohair and Wool (CMW) and BKB Limited to do background research on the mohair produced by the producer. Membership is granted if producers can meet and maintain the minimum Camdeboo quality related standards prescribed by the Camdeboo Value System. The members of the company all pay an annual "membership fee" and are subject to trial membership to ensure that the producer conforms to the quality standards that the company sets for its members and which are assessed by BKB and CMW agents). A probation period is also applicable, should the quality of the producer's mohair drop below the standards necessary to market the producer's mohair as Camdeboo mohair.

Currently, the core of Camdeboo's members consists of leading South African mohair producers that have proved themselves as producers of the most exclusive quality mohair available. The stature of Camdeboo's producers is evident from the various prestigious international quality-related awards that these producers continuously win in recognition of mohair of exceptional quality.

Camdeboo Mohair is by no means "exclusive". In fact, its organisation is extremely inclusive. All currently existing marketing mechanisms have been invited to contribute to the process of assisting all mohair farmers in delivering top quality fibre to the end market. Thus, agreements are in place between Camdeboo Mohair and BKB and CMW agents to ensure that mohair which meets the exacting standards of Camdeboo Mohair finds its way, properly sorted and labelled, to the auction floor so that producers can enjoy the higher prices that result.

Farming systems

Camdeboo producers vary in size but generally speaking the bulk of mohair producers for Camdeboo Mohair are medium to large scale farmers. Farms on which mohair is produced can vary between a few hundred hectares in parts of the region with high carrying capacity to farms that stretch over many thousands of hectares in parts of the region that are very dry and arid and have a low carrying capacity. Mohair production is usually complemented by other farming activities that include the production of wool, mutton, beef, and to a lesser extent game, Boer goats, ostriches and crops. The choice of which is dependant on climatic and vegetation conditions.

Supply chain: current relationships of farmers with downstream actors

The Camdeboo Mohair Company was established with the aims to establish partnerships with mohair clients through personal interaction and the licensing of clients to use the globally registered Camdeboo brand name. The Camdeboo concept integrates planning, controlling and optimising the flow of information and Camdeboo mohair from the point-of-origin through the mohair supply chain between producers, service providers and end-users with a primary focus on satisfying the needs of the end-user. As mentioned previously, licensing agreements have been established with BKB and CMW to pay particular attention to the shearing, classing and preparation of mohair deemed of Camdeboo standard. For this

extra effort, these agents earn commission as usual (but obviously the commission, which is percentage based, is more because the Camdeboo clips earn higher prices).

Camdeboo Mohair has, furthermore, also sought to have Camdeboo Mohair clips processed on commission to avoid the general monopoly that the two top-manufacturers in the world enjoy regarding prices paid. This has proved rather difficult in that these top-manufacturers prefer to own the mohair that is processed. However, negotiations have been undertaken that the mohair is processed on commission, and Camdeboo Mohair has then directly negotiated with several fabric manufacturing firms and final designers regarding the final presentation of the product. Thus, several activities have been undertaken to move Camdeboo Mohair through the value-chain whilst retaining ownership of the clip until final product manufacture. This process has not been undertaken with the entire clip due to the difficulty in negotiating fibre processing on commission. However, it is the aim of Camdeboo Mohair to channel more of the clip through this process, so that higher values of the final product can be returned to the original product producers. To effect this, the business form of the company will soon be changing to include shareholding by the producers. In this way a dividend could be paid to farmers based on the values attained for the final high-end exclusive products.

The general mohair value-chain is shown in Figure 6.2 below. It should be noted that this is the same value-chain used by Camdeboo Mohair. However in the case of Camdeboo Mohair, certain activities and contracts along the chain are driven personally by Camdeboo Directors to ensure that the final product is utilised in only pre-determined products.

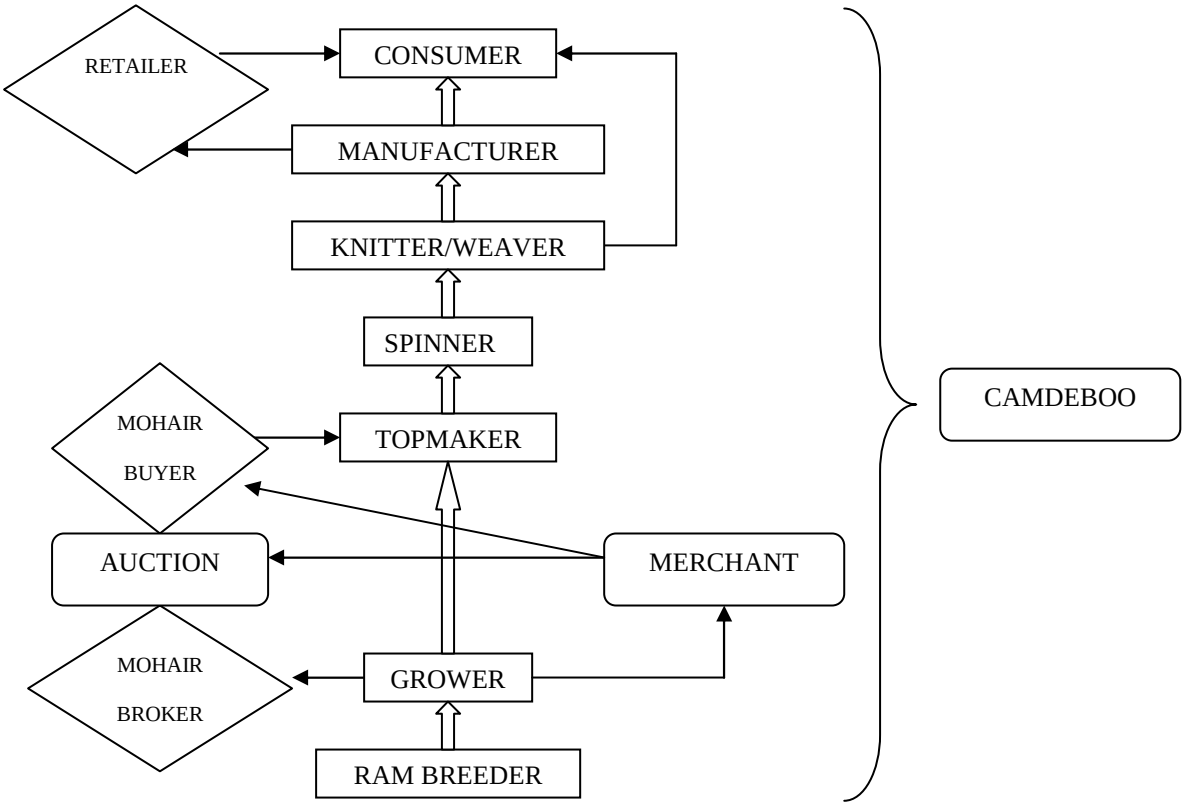


Figure 6.2: Mohair supply chain

6.4 Ownership structure surrounding the indication and existing attempts to register ownership

Camdeboo Mohair is a registered company under South African law. The Camdeboo trademark has been registered in the most important markets for Camdeboo Mohair. As already mentioned, the company is moving towards shareholding for its members so that profit-sharing can take place.

6.5 Existing certification bodies within the indication

Currently the Wool Testing Bureau tests and certifies the quality of all wool and mohair offered for sale in South Africa, and CMW and BKB verify the methodology used to present the clip for sale. However, CMW and BKB agents are also licensed to verify that the clips that are of Camdeboo standard can be labelled with a "C" when baled and transported to the auction floor. Thus, a verification and certification process is in place.

6.6 External support

No external support has been forthcoming in establishing and growing the Camdeboo Mohair Company or building the reputation and brand. This process has been wholly driven and financed from within the company.

6.7 Conclusion

It is the opinion of the authors that Camdeboo Mohair has all the elements of a GI. It is a differentiated, unique, quality product with geographic, biological and human elements (none of which can be seen in isolation), a level of collective action exists and the capacity to drive the initiative could be created. The fact that there has already been an instance of usurpation (Mr Paul Michau – personal communication) emphasises the need to seek stronger protection of the name and the GI route should be further explored in support of stronger international protection.

References

FAO (2005). The end uses of wool. [Web: http://www.fao.org/docrep/v9384e/v9384e04.htm]

Herselman MJ, Olivier JJ and Snyman, MA (1998). Studies on small ruminant breeds with inherent differences in fibre production and ewe productivity. 1. Relationship between ewe productivity and wool production potential. S.Afr.J.Anim.Sci. 28:1. Pg 1 – 8.

Mohair SA (2008). Mohair SA. [Web: http://www.mohair.co.za]

Mohair South Africa (2004). Mohair Review. Mohair South Africa Ltd, Port Elizabeth, South Africa.

Pringle WA and Döckel JA (1989). The South African Angora Goat and Mohair Industry. *The South African Journal of Economics*, 57 (3).

Reis PJ and Sahlu T (1994). The nutritional control of the growth and properties of mohair and wool fibers: A comparative review. *J.Anim.Sci.* 72: 1899-1907.

Snyman MA (1997). Grootfontein's role in servicing the needs of the Angora goat industry: Current research projects. In: Commericialisation of Indigenous Goat Production and Products in South Africa (Ed. M. Roets). Proceedings of a workshop held at the Irene Animal Nutrition and Products Institute of the Agricultural Research Council on 24 June, 1997, Pretoria. Pg 100 – 102.

Uys DS (1988). Cinderella to Princess. The Story of Mohair in South Africa. 1838 to 1988. The Mohair Board: Port Elizabeth.

Van Der Westhuysen JM, Wentzel D and Grobler MC (1988). Angora Goats and Mohair in South Africa. (3rd ed.) Port Elizabeth, RSA:NMB Printers.

Vlok JHJ and Euston-Brown DIW (2002). The patterns within, and the ecological processes that sustain the Subtropical Thicket Vegetation in the planning domain for the Subtropical Thicket Ecosystem Planning (STEP) Project. Report No. 40. Terrestrial Ecology Research Unit, University of Port Elizabeth, Port Elizabeth.

7. KAROO LAMB CASE STUDY[9]

7.1 Making the case for investigating Karoo Lamb as a potential GI

Windmills, sheep, farm homesteads, endless vistas, home-baked bread and hospitable evenings. These images are engrained in the minds of many South Africans when they think of the Karoo. Because of these images, and the tranquillity and honesty of the Karoo way of life, the "Karoo" concept has become synonymous with quality, tradition and wholesomeness. The reputation for quality which is embedded in words such as 'Karoo' has significant marketing potential and is as such already sought after by producers, who often have little or no link to the region.

The Karoo covers almost 50% of the total land surface of South Africa and is sparsely populated, far away from major urban and distribution centres. This lonely corner of the earth is home to one of South Africa's living treasures: flocks of sheep, grazing freely amongst the scattered shrubs. Karoo shrubs are palatable and meet the nutritional needs of the grazing animals year round (Le Roux, Kotze, Nel & Glen, 1994). Their meat is spiced on the hoof and described as *"mouth-wateringly succulent, imbued with the subtle, fragrant flavours of the Karoo bush".* It is not surprising as they feed on thousands of different species of wild herbs, where sheep normally feed on one type of grass. It is a most exquisite lamb, world-renowned as free-range Karoo lamb.

It is widely argued that the particular taste is the result of the animals foraging on fragrant Karoo shrubs (e.g Estler, Milton and Dean, 2006). A further theory is that the taste results from the free-range conditions under which the animals roam. It is still not scientifically established what the difference is and very few people have discovered the secret, but as some people argue, "my palate knows the difference". By all accounts, most chefs agree that we have something special in Karoo lamb.

The production area

The great semi-arid area stretching north-eastwards from the Cape is called the Karoo. It is typically a flat and dry shrubland. Rainfall is sporadic, less than 500 mm a year, in some places a great deal less. Periods of drought last for several years, affecting the region and its plant growth.

Total gross income from agriculture in the Central Karoo District Municipality, an area which roughly represents the Karoo region, was R147,9 million in 2002, with sheep providing the largest share (54%), followed by animal products such as wool and mohair (22%).

Production processes

The farming system of a typical Karoo sheep farmer is an extensive and low-input system in an area with very low grazing capacity. The natural pasture varies from mixed grass and

[9] Johann Kirsten and Hester Vermeulen.

shrub veldt to Karoo shrub veldt and is described by Acocks (1988) as arid Karoo. The official grazing capacity in most of the area is estimated at 35 ha per large stock unit. The climate is characterised by severe winters and hot summers.
Windmills and wire fencing entered the farming practices of the north-eastern Karoo in the final decades of the nineteenth century. A new grazing system came into being, comprising artificial water sources and camps in which sheep and other livestock ranged freely. By the late 1920s this had displaced the old shepherding-plus-kraaling arrangements. It was predicted at the time that the new methods would raise stocking rates, improve veldt cover and lessen soil erosion.

Most of the farmers producing Karoo Lamb operate farms in excess of 1 000 ha and flock sizes above 200 ewes. Ram and ewe lambs are usually sold to registered abattoirs as soon as they reach a body weight of approximately 30 - 40 kg. These abattoirs have links with meat distributors/wholesalers that sell into the retail and catering trade.

Production is virtually organic except for minor doses for typical sheep diseases such as blue tong. Karoo lamb is marketed straight from the veldt and no additional feed is provided. It does, however, happen that some farmers fatten the sheep in a feed lot before marketing. There is a general belief, as well as anecdotal evidence, that these animals lack the distinctive taste of those that have grazed the natural veldt.

There is, however, some debate as to whether the distinctive taste depends, at least partly, on the specific breed of sheep such as the 'Dorper' or the 'Merino'. The debate also raises the question whether only certain bushes forming part of the Karoo shrubs contribute to the distinctive taste, which then makes the demarcation of the production region so critical. As a result, demarcation of the Karoo region has been a central issue from the inception of the case study. The eventual plotting of the Karoo map was arrived at in consultation with all stakeholders, using scientific evidence, mainly based on vegetative and soil classification.

The product and its existing reputation (exposure of the product)

Sheep is produced in most regions of South Africa, barring the country's far northern reaches. South African sheep is usually produced on natural pastures and in arid areas such as the Karoo region, renowned for its high quality mutton. Certain breeds have been specifically bred for arid areas. The two most important sheep breeds (mutton) in South Africa are the Dorper and Merino breeds (SAMIC).

The Dorper breed, a white-bodied sheep with a black head, was developed in the 1940's in the Karoo region of South Africa, by crossing the imported Blackhead Persian (a fat-rumped hair breed that is adapted to harsh arid environmental conditions) and the British Dorset Horn (Snowder & Duckett, 2003:368). Currently the Dorper breed is the second largest breed in South Africa and has spread throughout the world. A live weight of about 36 kg can be achieved by the Dorper lamb at the age of 90-120 days (3-4 months), with carcass weight of approximately 16 kg (Breeds of livestock, 1999).

The South African Mutton Merino is a dual-purpose (mutton and wool) sheep breed, which was developed from an imported German Merino breed. It has adapted to most South

African environmental conditions. It is bred specifically to produce a slaughter lamb at an early age (35 kg at 100 days of age) whilst still being able to produce good volumes (4 kg) of medium to strong wool (Breeds of livestock, 1999:1). The breed is characterised by a high growth rate and produces slaughter lambs with good meat quality attributes (Neser, Erasmus & Van Wyk, 2000).

In South Africa, carcasses are classified according to age and fat class (Agricultural, Product Standards Act 119 of 1990 and its regulations). Age is described according to the number of permanent incisors with age class A = 0 teeth, AB = 1-2 teeth, B = 3-6 teeth and C = more than 6 teeth, while carcasses are grouped into seven fat classes by means of visual appraisal of subcutaneous fat (SCF) (fatness class 0 = less than 1.0 % SCF, to fat class 6 = more than 17.6 % SCF, excessively over fat).

At present there is no existing scientific literature on the sensory qualities of Karoo lamb and/or mutton. As noted earlier, Karoo lamb/mutton has become associated with a unique and desirable flavour, which has been described as much sought after. In order to protect the geographical name of the Karoo, as well as the indigenous resources associated with Karoo lamb/mutton, the potential exists for the establishment of a geographical indication based on its reputation. This reputation is a partly derived from its perceived quality as well as the nostalgia evoked by the Karoo region.

The product 'Karoo Lamb' has been part of the South African culture for more than a hundred years. It is part of the 'Afrikaner' and also 'Cape' cuisine, and many regions and towns in the Karoo market their towns, restaurants and guest houses as 'the home of Karoo Lamb'. On the menu of most of the restaurants and guest houses in the Western Cape and Northern Cape you will notice the various dishes made from 'Karoo Lamb'. With many Afrikaners being urbanized over the last 40 years and the connection to rural South Africa to a large extent lost, the nostalgia around the traditional Afrikaner way of life is in a way rekindled through the association with Karoo Lamb.

Apart from a strong geographical connotation, there is also a cultural link ensconced in the 'Karoo Lamb' concept. Difficulties arise however, as there is no certification and guarantee that the product, which is marketed as Karoo Lamb, truly originates from the Karoo. There is only one retail chain, Woolworths, that has a strict certification system in place which verifies claims that the lamb and mutton sold in their stores are free range and originate in the Karoo.

This case study deals in essence with the reputation and image of a product that faces the risk of usurpation. Restricting the use of the indication "Karoo Lamb" to products originating from that area through proper marketing, distribution and collective certification could result in preservation of reputation and a price premium for the producers of Karoo Lamb whilst preventing consumers from being misled.

7.2 The research process and objectives

This case study presented specific challenges to our research team. Since the Karoo region is so vast and diverse, there is hardly any sign of collective structures that engage in joint

marketing or advertising. Farmers are typically organized in district farmers' unions, and many of the producers of Karoo Lamb are members of the national Red Meat Producers Organization (RPO) as well as of the relevant provincial chapter (Northern Cape, Western Cape or Eastern Cape) of that organisation. The RPO is primarily a lobby organization concerned with government policy matters, animal health, prices, standards and general market issues. As a result, there is no collective system or structure to promote Karoo Lamb as a product with a certain uniqueness and reputation. There is also no collective system of quality management and certification of Karoo Lamb. Consumers rely to a large extent on the *bona fides* of the butcher/retailer or the restaurateur.

It was considered important for the research process to consult widely with stakeholders in the Karoo. A number of meetings were organised to facilitate the necessary consultation. A first meeting was held to test stakeholders' interest in pursuing the protection of the Karoo name to prevent misuse of the name by food companies. This meeting took place on 7 August 2006 on the farm Dombietersfontein near Victoria West in the Northern Cape. In addition to the project team[10], the meeting was attended by 14 local farmers, 3 individuals representing the downstream chain, as well as representatives from the Provincial Department of Agriculture in the Western Cape. Many of the participants expressed interest in this initiative and there was a request by the farmers for information on the following issues:

- Definition of the Karoo.
- The nature of the Karoo reputation.
- Description of the product and how to produce it.
- The link between the area and the product.

Of major concern, however, was the fact that there was no organisation that could take ownership of the name Karoo Lamb. The farmers subsequently requested the project team to continue leading the project. As a result of these priorities, the case study essentially focused on a number of key issues which, in most instances involved many of the stakeholders in the Karoo Lamb supply chain within the Karoo region:

1. Establishing the value and reputation of the 'Karoo' designation;

2. Identifying current trademarks consisting of /containing the word "Karoo" ;

3. Demarcating the Karoo region through a combination of boundaries based on vegetation (veldt type) and political considerations;

4. Assisting producers of Karoo Lamb in the drafting of a code of farm practices to be used in the production of Karoo Lamb;

5. Identifying the sensory attributes as well as consumer perceptions of Karoo Lamb and their association with the region. In order to scientifically test the 'taste' associated with Karoo Lamb and to determine the demand for the product, we

[10] Prof Johann Kirsten (UP); Dr Dirk Troskie and Mr Herman Hugo (Dept of Agriculture, Western Cape).

embarked on a number of studies (again illustrating the link between biological and consumer sciences) to verify the reputation and thus economic value of the product. The purpose of the sensorial analysis as well as the chemical analysis (of meat and scrubs) was to compare the fatty acid profiles, sensory attributes and cooking-related properties of *M. semimembranosus* (leg), cooked according to a moist heat cooking method, of Age B mutton from fat class 3-4 of Dorper and Merino from the Karoo with that from other production areas using quantitative descriptive analysis. The primary purpose was to determine whether there is any link between the natural properties of a specific region and the chemical compounds found in the fatty acids, and thereby to confirm the notion that lamb produced in the Karoo region is different (in terms of sensory attributes) from lamb produced in other regions of the country; and

6. Assessing the reputation of the Karoo as a region for the production of lamb and mutton by analyzing consumer perceptions. The method used was to establish consumers' awareness and perceptions of South African mutton and to measure consumers' degree of appreciation of mutton linked to a particular geographical area of production. The aim was not to establish the consumer's willingness to pay for a particular product, but to test consumers' perceptions and general awareness so as to assess the level of 'reputation' of the product.

The initial meeting was followed by a number of subsequent meetings and it was interesting to note how, as the case study continued, a number of additional role-players became interested. These additional interested parties could be categorised into three groups:

1. Current residents of the Karoo;
2. Previous residents of the Karoo who still have part-time interests in the area; and
3. Individuals and/or organisations with administrative or research interests in the Karoo Region. These include representatives from three Provincial Departments of Agriculture (Eastern Cape, Northern Cape and Western Cape) as well as from the Institute for Development Support at the University of the Free State. A representative from The South African Agricultural Processors Association attended the meeting at the request of the Western Cape Department of Agriculture to provide assistance with respect to the World Trade Organisation's rules applicable to GIs.

The second meeting took place on 12 June 2007 at Meltonwold farm, near Victoria West. The purpose of this meeting was to provide a progress report on the various issues identified at the first meeting as well as to discuss certain key issues with residents. Some of the issues addressed included the reaching of consensus on the plants to be used in the sensory analysis, the demarcation of the Karoo region as well as the issue of ownership of the Karoo designation.

The third, and to date most recent meeting, was held on 9 November 2007 at the Wagon Wheel Inn near Beaufort West. Its objective was to provide feedback on the results of the project to the interested parties. Agreement was reached with respect to the following:

- The demarcation of the Karoo Region;
- The significance of the Perception Survey;
- The significance of the Sensory Analysis;
- The need for the establishment of some organisation such as a Trust that can be the "owner" or the guardian of the Karoo Lamb designation. However, it was recognised that due cognisance must be taken of existing and potentially conflicting interests in the designation 'Karoo"; and
- The need for a basic set of production principles associated with the Karoo Lamb designation.

This case study focused on the specificity and reputation of Karoo lamb in order to determine the potential for GI-type IP protection. Such protection could unleash considerable economic potential for a generally arid and impoverished region.

7.3 "Karoo" as a marketing asset

In order to investigate the possibility of registering KAROO LAMB as a certification or collective trade mark, a search was conducted at the South African Trade Marks Office to identify existing trade mark applications/registrations which consist of the words KAROO and/or KAROO LAMB. The search was conducted in class 29 of the Nice International Classification system which covers the following goods: "*Meat, fish, poultry and game; meat extracts, preserved, dried and cooked fruits and vegetables; jellies, jams, compotes; eggs, milk and milk products; edible oils and fats".* The results of the search are summarised in Table 7.1.

Table 7.1: Trade mark applications/registrations containing the word Karoo and/or Karoo Lamb

TRADE MARK	DISCLAIMER	PROPRIETOR	FILING DATE	STATUS	NICE INTERNATIONAL CLASSIFICATION
KAROO	None	Tiger Food Brands Intellectual Property Holding Company (Pty) Limited	22 December 1977	registered	Class 29: Fish, preserved, dried and cooked fruits and vegetables; jellies, jams, eggs
KAROO	Registration shall give no right to the exclusive use of the word KAROO	Foodcorp (Pty) Limited	16 March 1983	registered	Class 29: Meat and meat products, poultry and game included in this class
DOORNBULT KAROO LAMB	Mark only to be used with respect to lamb and mutton originating in the Karoo	Econotech CC	13 January 1995	registered	Class 29: Meat and meat extract, meat products
KAROO GOLD	Registration shall give no	Andrew Meintjies	19 August 1998	registered	Class 29: Processed meats,

TRADE MARK	DISCLAIMER	PROPRIETOR	FILING DATE	STATUS	NICE INTERNATIONAL CLASSIFICATION
	right to the exclusive use of the word KAROO	Conroy			meat, game, poultry and meat extracts
KAROO LAMB FREE RANGE PRIME QUALITY	Registration shall give no right to the exclusive use of the word KAROO	Klein Karoo International (Pty) Limited	20 February 2007	Advertised	Class 29: Meat, meat extracts and meat jellies

The existence of these marks is likely to pose an obstacle to the registrability of KAROO LAMB as a certification or collective trade mark. Of particular interest are the marks KAROO LAMB FREE RANGE PRIME QUALITY and DOORNBULT KAROO LAMB.

In the case of KAROO LAMB FREE RANGE PRIME QUALITY, exclusive rights to the name KAROO have been disclaimed but no disclaimer has been entered with respect to the use in combination KAROO LAMB. The South African Trade Marks Act 194 of 1993, however, provides in section 10 for the possibility to refuse/remove a mark based on, amongst others, that the mark is inherently deceptive or that its use is likely to deceive or cause confusion. As the mark KAROO LAMB FREE RANGE PRIME QUALITY is used with respect to lamb originating in regions other than the Karoo, it could be argued that it is deceptive and misleading. It should thus be possible for interested parties to bring expungement proceedings to have the mark KAROO LAMB FREE RANGE PRIME QUALITY removed from the Register.

In the case of DOORNBULT KAROO LAMB, the mark has been endorsed with a limitation to the effect that it may only be used with respect to lamb and mutton originating in the Karoo. Use of this mark in accordance with its endorsement would, therefore, not be considered misleading. Having this mark expunged may thus prove more difficult, unless it has not been used for a consecutive period of 5 years, in which case it may be expunged in accordance with the provision of the South African Trade Marks Act. A more likely option would be to explore the possibility of approaching the Registrar for a disclaimer with respect to exclusive rights to the words KAROO LAMB. Given the descriptive nature of these words, such a request is unlikely to be refused.

The trade mark search confirms that various companies are developing marketing strategies around the name Karoo and/or Karoo Lamb. There are furthermore many illustrations of entrepreneurs in Karoo Towns who use the Karoo image in the marketing of their products (see the pictures below). This highlights the value which can be derived from the Karoo designation and the need to ensure that it is legitimately exploited. Unfortunately, there are many instances where the name Karoo is used with no confirmed link with the Karoo region or at least no guarantee that the product originates from the Karoo. A geographical indication system will serve to preserve the reputation of Karoo Lamb and allow all legitimate actors to appropriate the commercial benefits derived from the designation.

7.4 *Where is the "Karoo"?*

As mentioned, the task of demarcating the Karoo region has been fairly contentious, necessitating several engagements with farmers, botanists and officials from the Department of Agriculture. At the first meeting with interested parties, the Project Team was granted a mandate to define the Karoo Region. Based on this mandate, a map of the Karoo was prepared by the Geographic Information System (GIS) Team, in particular Mr Mike Wallace from the Western Cape Department of Agriculture. The proposed map of the Karoo was presented at the second meeting. The map defined the boundaries of the Karoo as follows:

1. The Western and Southern borders of the Karoo were defined by the boundary between the winter and summer rainfall areas of South Africa (Schultze, 1997).
2. The Northern border was defined by the Gariep River (SIRI, 1987).
3. The Eastern border was defined by the Winterberg mountain ranges (SIRI, 1987).

Participants at the second meeting commented that, as the unique characteristics of Karoo Lamb derived from a specific plant species, vegetation and veldt type should be used to define the Karoo Region. Further, in order to ease administration, it was decided to overlay the veldt type with Municipal Boundaries.

Following subsequent inputs from the veldt scientists of the Northern Cape Department of Agriculture, a selection of six of the most commonly found plants were identified. In selecting the plants, consideration was given to which plants, according to popular opinion, are believed to contribute most to the distinctive flavour of Karoo Lamb. As they say: "You know when you are in the Karoo"! These plants are *Planthus karrooicus* ("Silverkaroo"), *Penzia spinescens* ("Skaapbossie"), *Eriocephalus ericoides* ("Kapokbossie"), *Salsola glabrescens* ("Rivierganna"), *Pentzia incana* ("Ankerkaroo") and *Pieronia glauca / rosenia humilis* ("Perdebos").

For purposes of the second draft of the map, the most recent vegetation data in South Africa (Mucina and Rutherford, 2006) was used. This was overlaid with the political boundaries of the various municipalities (Demarcation Board, 2006). The resulting municipalities, in which some of the shrubs occur at least partially, are presented in Table 7.2.

Table 7.2: Municipalities in which some of the identified Karoo shrubs occur

NAME	TYPE	PROVINCE	DISTRICT	Area (km^2)
Camdeboo	B	Eastern Cape	DC10	7230
Blue Crane	B	Eastern Cape	DC10	9836
Ikwezi	B	Eastern Cape	DC10	4453
Baviaans	B	Eastern Cape	DC10	7727
Inxuba Yethemba	B	Eastern Cape	DC13	11592
Tsolwana	B	Eastern Cape	DC13	6025
Inkwanca	B	Eastern Cape	DC13	3584
Maletswai	B	Eastern Cape	DC14	4358
Gariep	B	Eastern Cape	DC14	8911
ECDMA10	DMA	Eastern Cape	DC10	13280
ECDMA13	DMA	Eastern Cape	DC13	133
Letsemeng	B	Free State	DC16	10225
Kopanong	B	Free State	DC16	15248
Mohokare	B	Free State	DC16	8776
Tokologo	B	Free State	DC18	9326
Nama Khoi	B	Northern Cape	DC6	15025
Kamiesberg	B	Northern Cape	DC6	11742
Hantam	B	Northern Cape	DC6	27968
Karoo Hoogland	B	Northern Cape	DC6	29397
KhГi-Ma	B	Northern Cape	DC6	8332
Ubuntu	B	Northern Cape	DC7	20389
Umsobomvu	B	Northern Cape	DC7	6819
Emthanjeni	B	Northern Cape	DC7	11390
Kareeberg	B	Northern Cape	DC7	17702
Renosterberg	B	Northern Cape	DC7	5527
Thembelihle	B	Northern Cape	DC7	6980
Siyathemba	B	Northern Cape	DC7	8209
Siyancuma	B	Northern Cape	DC7	10024
Kai !Garib	B	Northern Cape	DC8	7446
//Khara Hais	B	Northern Cape	DC8	3444
!Kheis	B	Northern Cape	DC8	6436
Sol Plaatjie	B	Northern Cape	DC9	1877
NCDMA06	DMA	Northern Cape	DC6	24764
NCDMA07	DMA	Northern Cape	DC7	15687
NCDMA08	DMA	Northern Cape	DC8	65103
Laingsburg	B	Western Cape	DC5	8784
Prince Albert	B	Western Cape	DC5	8153
Beaufort West	B	Western Cape	DC5	16330
WCDMA05	DMA	Western Cape	DC5	5587

As a result of this process two major difficulties were encountered:

1. The natural occurrence of the six plant species is not limited to the Karoo, but also occurs naturally in large parts of the Free State and Namibia.
2. In some instances the plants occur only in small sections of a municipality.

The resulting map shown in annexure 8 was nevertheless tabled at the third meeting with the interested parties. During this meeting, the following decisions were taken:

1. The process and demarcation was in principle accepted as sound.
2. Although a specific farm may fall within one of the municipalities listed in Table 7.2, the farmer will still have to prove that at least one of the identified Karoo bushes actually grows on the farm. This requirement will be included in the product description.
3. The exclusion of NCDMA 08, Tokologo, Kopanong, Mohokare, Inckwanca, Nama Khoi and Kamiesberg Local Municipalities should be considered.

7.5 The code of practice constituting "Karoo Lamb"

The producers and some abattoirs in the Karoo region were tasked with the drafting of the code of practices and the auditing process that could be used to certify lamb or mutton originating from the Karoo.

Code of practice

The code of practices for Karoo Lamb producers ties in very closely with the code of practice of food stockmanship and animal welfare, but includes specific practices to ensure the unique characteristics of the final product.
Only animals originating from the Karoo or animals that remained in the area of the Karoo at least 12 months before slaughter, and which are free of scheduled diseases, should be used.

Animals should have free access to natural veldt grazing and may have additional but simultaneous free access to farm feeds containing cereals, silage or any other natural plant matter. No animal products or by-products may be given, irrespective of the classification in terms of the Fertilisers, Farm feeds, Agricultural Remedies and Stock Remedies Act No. 36 of 1947.

Transportation of livestock must be in accordance with regulatory procedures laid down under the Animal Protection Act No. 71 of 1962. Trucks should not be overloaded and all vehicles should be well maintained and constructed with no physical protrusion (e.g. hinges and latches are recessed, no bolts left protruding).

In terms of natural veldt grazing and access to water a number of key points are specified:

- Water sources are capable of supplying sufficient amounts of cold, fresh and clean water to meet the requirements of drinking animals. Water points should be clean and free of excessive mud in and around water troughs;
- Camp stocking rates should be such as to ensure that the natural environment and general plan condition and density are not adversely affected. High pressure points (water troughs, lick bins, etc) are managed to minimize damage caused by trampling;
- Natural veldt grazing should be rested from time to time to ensure optimum growth and production;
- Fences and gates are maintained in good working order; and
- Supplementary feeding is permitted during times of drought in order to protect damage to the natural grazing.

Auditing schedule

The South African Meat Industry Company (SAMIC) already performs a number of inspection and certification processes for the red meat industry in South Africa. It follows that if the Karoo Lamb producers eventually decide to pursue a GI or a certification mark for Karoo Lamb, it would be logical to request SAMIC to perform these official audits.

The facilities to be audited on a regular basis include:

- Abattoirs
- Cutting plants
- Retail stores.

Audits will be conducted according to the following schedule:

- Animal production units will be audited on application;
- Abattoirs will be audited according to the HACCP system;
- Cutting plants will be audited according to the HACCP system; and
- 25 % of all retail stores will be audited annually according to the brand protocol.

If any major deviations which could have a direct influence on the product are found at any of the facilities (abattoirs, cutting plants or retail stores), the facility will be delisted and re-evaluated within one month after an application for re-evaluation has been filed. If a minor deviation is found at any of the facilities, it will be addressed by issuing a Corrective/Preventative Action Request.

SAMIC could also perform audits at farm level and will be involved in the certification of producers as accredited suppliers of Karoo Lamb. For a supplier to be accredited it should be located within the defined municipalities, adhere to the practices identified above and have sufficient numbers of the relevant plants on the farm.

7.6 The link between sensory attributes of Karoo Lamb and the region of origin

Reputation is a shared asset determined by the product's historical presence in the region, product specificity and consumers' perceptions that could be determined on a local, national or international basis (Barjolle & Sylvander, 2002). The potential product specificity of Karoo lamb relates specifically to the unique flavour of the meat, associated with the grazing conditions in the Karoo. Thus, in order to establish the product specificity of Karoo lamb and mutton, it was critical to apply sound scientific methodologies in order to:

- Determine if there is a sensory detectable difference between the two main sheep breeds, namely Merino and Dorper, within a region;
- To ascertain if there is a significant sensory detectable difference between mutton produced in the different Karoo regions;
- Determine whether there is a sensory detectable difference between mutton produced in the Karoo region compared to mutton produced in a different area in South Africa,

namely the Free Sate and a neighbouring country e.g. Namibia (available in the South African fresh meat trade);
- Analyse the fatty acid profile of mutton produced in the Karoo region compared to mutton produced in Namibia;
- Analyse the fatty acid profile of indigenous plants traditionally linked to the unique flavour compounds in mutton from the Karoo region.

The ARC Sensory Analysis Unit was tasked to evaluate the flavour attributes of mutton from the Karoo region.

7.7 Research methodology

According to the Department of Agriculture (2005), the national sheep herd as a percentage per region is as follows: Eastern Cape: 30 %; Northern Cape: 26 %; Free State: 20 %; Western Cape: 11 %; Mpumalanga: 7 %; Kwazulu-Natal: 3 %; North West: 3%. Intact leg samples of Merino and Dorper mutton from De Aar (Northern Cape), Carnarvon (Northern Cape), Kalahari (Northern Cape), Free State and Namibia were procured of a similar fatness level (fat code 2). Panellists were carefully selected and trained to assess the flavour and texture attributes and to develop descriptive terminology for describing the different Karoo lamb samples.

The panellists were trained on the mutton samples from the different regions and were exposed to the grazing plants eaten by sheep in the Karoo region. The grazing plants were selected based on the recommendation made by Tommy Buis of the Department of Agriculture in the Northern Cape from a study they performed based on physical stomach content of sheep from this region. The grazing plants were selected based on their prevalence and included: *Planthus karrooicus* ("Silverkaroo"[11]), *Penzia spinescens* ("Skaapbossie"), *Eriocephalus ericoides* ("Kapokbossie"), *Salsola glabrescens* ("Rivierganna"), *Pentzia incana* ("Ankerkaroo") and *Pieronia glauca / rosenia humilis* ("Perdebos"). A 'tea' was brewed with tips and fine twigs of the grazing plants and was served hot to the panel, who developed descriptive terms to describe the flavour of each plant. The *M. Semimembranosus* muscle was dissected of each cooked leg cut, cut into cubes and served wrapped in three-digit coded foil squares and presented to the panel under red-light conditions in individual sensory booths. Samples were evaluated on an 8-point category scale ranging from 1 = none to 8 = extreme. Eight replications were applied to ensure reliability of the data. Both the fatty acid profiles and Conjugated Linoleic Acid (CLA) content of the cooked meat as captured from the cooking losses (separated fat only) and the Karoo shrubs (leaves and thin twigs) were analysed by the ARC accredited analytical laboratory.

Results and discussion

Trained panel sensory analysis

The results showed that the grazing plants from the Karoo and Karoo-like regions could impart herbal and musty flavour attributes to mutton meat from sheep breeds of these regions. The herbal attribute was found to contribute positively to the cooked flavour of the

[11] The terms in brackets are the common names for these shrubs while "Bossie" is the Afrikaans term for shrub.

meat and the musty flavour attribute contributed negatively to the cooked flavour of the meat. A 2-way ANOVA was performed with breed and region as the main effects and indicated no significant differences between the Merino and Dorper breeds. The ANOVA of the combined sensory data per region indicated significant differences between the different regions.

To further investigate this finding, Principal Component Analysis (PCA) was applied to identify the attributes that differentiate the most between the mutton samples (see Figures 7.1 and 7.2).

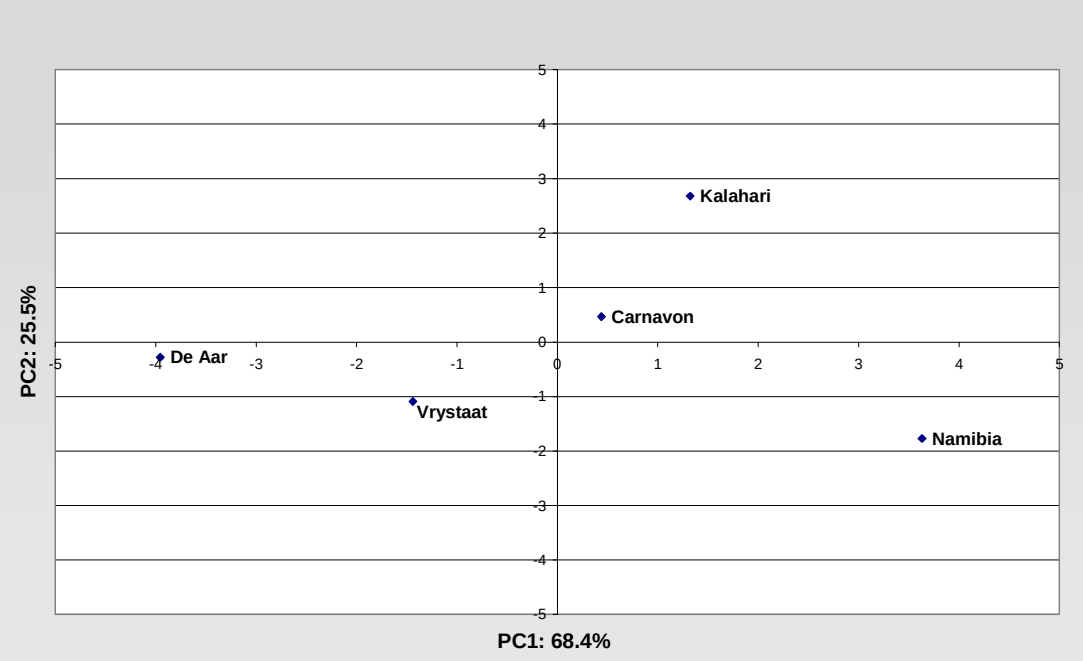


Figure 7.1: Graphical representation of the PC-scores of the mutton samples

PC1 and PC2 explained 93 % of the total variation in the data. The PCA indicated that mutton from the De Aar region was most intense in the herbal component, although not significantly so according to ANOVA, and had a slightly coarser texture that was not very tender.

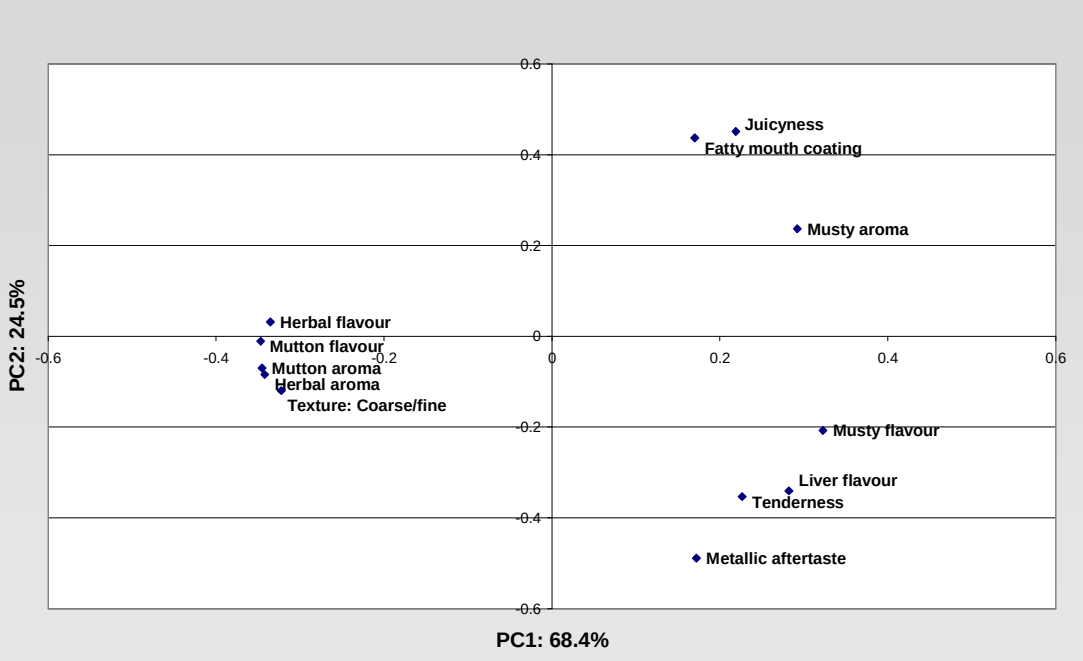


Figure 7.2: Graphical representation of the main attributes identified in the PCA that discriminated between the mutton samples

Mutton from the Namibian region was most intense in the musty flavour component with a slightly more tender texture. Mutton from the Carnarvon and Kalahari regions, which are situated in the heart of the Karoo, differed only slightly from mutton from Namibia and mutton from De Aar regions respectively. These differences were not very distinct. The mutton from Carnarvon and Kalahari had a fairly intense mutton aroma and flavour, and both the herbal and musty attributes were present in the meat. Some textural differences were found between the breeds and regions.

With regard to the sensory profiles of mutton from the Karoo region (Carnarvon, De Aar and Kalahari), definite flavour characteristics were present in the meat which can only be due to grazing plants in these areas that are consumed by sheep. However, this was not significantly different to mutton from adjacent Free State quite possibly due to the distribution of the Karoo scrubs crossing the regional boundaries between the Karoo and adjacent Free State regions (refer to Figure 7.3 for detail). Based on the PCA, Namibian sheep meat grouped separate from meat originating from all the Karoo-like regions.

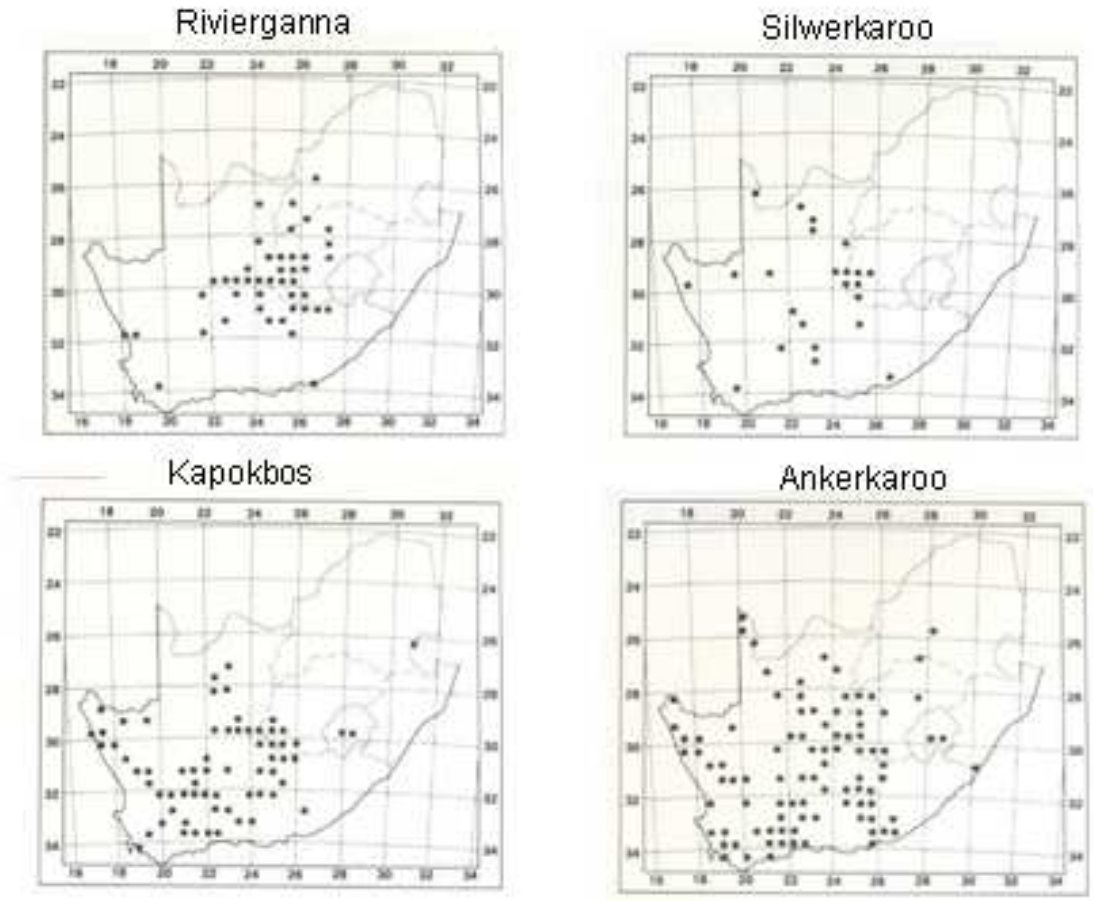


Figure 7.3: Geographical distribution of selected important Karoo scrubs
Source: Le Roux, Kotze, Nel & Glen (1994).

Chemical fatty acid analysis

CLA is a component found in the fat of grass-fed ruminants. New research indicates a link between CLA and the prevention of chronic diseases. More than 80% of South African lamb and mutton are extensively produced on pasture, thereby increasing the natural occurrence of CLA. Table 7.3 contains a summary of the dietary fats present in the sheep meat samples analysed within this project.

Table 7.3: Summary of dietary fats in South African mutton (g/100g)

Fatty acid analysis:	**Fat:**	**Mutton:**
Saturated fatty acids	52.43	4.57
Mono-unsaturated fatty acids	**43.87**	**3.67**
of which *trans*-fatty acids	*2.572*	*0.203*
n of which *cis*-fatty acids	*37.54*	*3.198*
Poly-unsaturated fatty acids of which *trans*-fatty acids of which *cis*-fatty acids	**3.07** *0.462* *1.869*	**0.34** *0.036* *0.171*
Calculated total:	**99.37**	**8.58**
Total *trans*-fatty acids	3.034	0.239
Total *cis*-fatty acids	39.410	3.375
Omega-6 fatty acids	0.387	0.258
Omega-3 fatty acids	0.983	0.080
CLA content (9ct11-C18:2)	0.561	0.047

Although present in significant amounts in all the mutton fat and grazing plants studied, no significant link could be found between a particular fatty acid (including CLA) in a grazing plant and a particular sensory attribute in the mutton from a particular region. This highlights the complexity of flavour compounds in mutton and warrants further investigation with more sophisticated technology, not within the scope of this study.

7.8 The reputation of Karoo lamb: consumers' perceptions

As mentioned earlier, in addition to product specificity, another important determinant of product reputation involves consumers' perceptions on a local, national or international basis. Thus, in order to develop further evidence towards establishing the reputation of Karoo lamb, consumer research was undertaken at national level to investigate consumers' perceptions and general awareness so as to assess the level of 'reputation' of the product.

Research methodology

The sample consisted of lamb and mutton purchasers and consumers from all races belonging to LSM (Living Standard Measures) groups 8, 9 and 10 in Gauteng and the Western Cape provinces of South Africa. Different racial groups were included in the study since the traditional Karoo culture was expected to be associated more with the white and coloured consumers and less with black consumers. The wealthy consumer segments were targeted given the fact that sheep meat is the most expensive type of red meat commonly purchased by consumers in South Africa. Gauteng and Western Cape were selected for the study given their dominance in the South African economy and the differences in proximity to the Karoo region. No specific age requirements were specified for the consumer sample. A combination of convenience and random sampling were employed to interview 120 consumers in each province through a combination of personal interviews en self-completion questionnaires. The research instrument of choice was a questionnaire containing a combination of open and closed questions. The questionnaire covered the following aspects:

- Demographic information;
- Basic questions on the purchasing, consumption and affordability of various meat types;
- More specific questions on the purchasing and consumption of lamb and mutton;
- Karoo lamb and mutton awareness, purchasing, consumption and perceptions.

The data was coded and captured using SPSS 15.0 for Windows. Data analysis involved a combination of descriptive statistics, Pearson Chi-Square test, one-way ANOVA (Analysis of variance) and the development of spider graphs to illustrate consumers' Karoo sheep meat perceptions.

Results and discussion

Sample demographics

The consumer sample had the following demographic characteristics:

- After data cleaning, the final sample consisted of 192 consumers (93 Gauteng consumers and 99 Western Cape consumers).
- Gender: 46.4% male; 53.6% female[12].
- Average age: 34.1 years.
- Race: 37.5% white; 35.4% black; 27.1% coloured[13].
- Marital status: 55.9% single; 36.7% married; 6.9% divorced.
- Education level: 34.5% Grade 12 or lower; 65.4% some post-matric qualification[14].
- Gross monthly income of households: 32.4% less than R10000; 22.7% R10000 to R14999; 19.3% R15000 to R19999; 8.5% R20000 to R24999; 15.3% R25000 or more.
- Average household size: 3.2 people[15].

Sheep meat in the context of other meat types

The share of consumers purchasing and consuming various meat types are shown in Table 7.4. The sampling criteria specified that consumers participating in the survey had to buy and eat sheep meat. When considering the other meat types, the data in Table 7.4 indicates the popularity of beef, chicken and fish.

Table 7.4: The share of the consumer sample purchasing and consuming various meat types[16]

Meat type:	Share of consumer sample (n=192) …. the specific meat type:	
	Purchasing:	Consuming:
Sheep meat	100%	100%
Beef	93.8%	95.8%
Chicken	95.8%	95.8%
Fish	91.1%	93.8%
Pork	73.3%	79.6%

The perceived affordability of various meat types are shown in Table 7.5. It clearly illustrates the perceived expensive nature of sheep meat. This is in line with the actual cost of sheep meat.

[12] Significant differences at the 10% probability level between Gauteng (39.8% male) and Western Cape (52.5% male)

[13] Significant differences at the 1% probability level between Gauteng (60.2% black & 39.8% white) and Western Cape (35.4% white, 12.1% black & 52.5% coloured). These differences were expected given the different demographic profiles of the two provinces.

[14] Significant differences at the 1% probability level between Gauteng (91.5% with some post-matric qualification) and Western Cape (60.0% with Grade 12 or less).

[15] Significant differences at the 1% probability level between Gauteng (2.74 people) and Western Cape (3.68 people).

[16] The race groups and provinces revealed similar behaviour in terms of the purchasing and consumption of different meat types.

Table 7.5: The perceived affordability of various meat types[17]

Meat type:	Share of consumer sample (n=192) indicating that the specific meat type is 'Very affordable' OR 'Somewhat affordable'
Chicken	80.9%
Fish	67.4%
Pork	64.4%
Beef	54.1%
Sheep meat from other SA regions	42.8%
Imported sheep meat	25.4%

Sheep meat

A number of questions investigated various aspects regarding the consumers' sheep meat purchasing and consumption behaviour:

- Overall only 47.0% of the consumers distinguish between mutton and lamb[18], despite the fact that all the consumers indicated that they purchase and consume sheep meat, revealing limited product knowledge even on this very basic level.
  The respondents' sheep meat purchase and consumption frequencies are summarised in Table 7.6. The differences between the purchasing frequencies and the consumption frequencies indicate bulk buying behaviour by consumers. It is also interesting to note that almost half of the sample is regular consumers of sheep meat (consuming it at least once per week or more often).

Table 7.6: Sheep meat purchase and consumption frequencies[19]

Frequency:	Purchasing:	Consumption:
Once per week or more	23.4%	48.6%
Once or twice per month	60.5%	41.8%
Less than once per month	16.1%	9.5%

- The most popular purchase location for sheep meat is the supermarket (82.3% of consumers), followed by butchers (37.0% of consumers).
- The meat cuts purchased most frequently are chops (70.8% of consumers), rib (52.3% of consumers), stew/potjie (49.5% of consumers) and leg/shank (39.8% of consumers)[20].

Karoo mutton / lamb sample

In order to establish consumers' awareness of the origin of meat in general, and Karoo lamb and mutton specifically, consumers were presented with the following questions: "Which type of mutton / lamb do you prefer? Mutton / lamb from … (1) Free State, (2) any region in SA, (3) the Karoo, (4) other countries OR (5) 'No specific preference'"; "Have you ever heard of Karoo mutton / lamb?" and "Do you buy Karoo mutton / lamb if available?". Only 34.9% of the consumer sample indicated that they have a preference for sheep meat with a specific regional origin (i.e. Any SA region or imported or Karoo or Free State). The consumers' specific regional preferences are summarised in Table 7.7. The most preferred options in

[17] The racial groups and provinces revealed similar behaviour in terms of their meat affordability perceptions.
[18] Among the white and coloured consumers a significantly higher share of consumers distinguished between mutton and lamb, compared to the black consumers.
[19] Share of consumers purchasing / consuming sheep meat according to a specific frequency.
[20] Share of consumers purchasing the specific meat cut at least once per month or more often.

terms of sheep meat origin were 'Any region in South Africa' and "The Free State", while sheep meat from the "Karoo" was among the lesser preferred options.

Table 7.7: Consumers' sheep meat preferences when considering meat origin

Sheep meat region of origin:	Share of total consumer sample ( ) and consumers with regional preferences [ ] indicating the specific choice:	
	First choice:	Combination of first-, second- and third choices:
Any region in South Africa	(9.4%) [26.9%]	(28.6%) [82.1%]
Imported	(11.5%) [32.8%]	(20.8%) [59.7%]
Free State	(7.3%) [20.9%]	(28.1%) [80.6%]
Karoo	(6.8%) [19.4%]	(21.4%) [61.2%]

It is important to note that even though 53.6% of the consumers indicated that they are aware of Karoo sheep meat, only 68% of these consumers (i.e. 36.5% of the total consumer sample) purchase Karoo lamb if it is available. Furthermore, only 39.8% of these consumers (i.e. 21.4% of the total consumer sample) indicated some preference for Karoo sheep meat. The respondents' Karoo sheep meat purchase and consumption frequencies are summarised in Table 7.8.

Table 7.8: Karoo sheep meat purchase and consumption frequencies[21]

Frequency:	Purchasing:*	Consumption:*
Once per week or more	(4.7%) [8.7%]	(4.7%) [8.7%]
Once or twice per month	(14.6%) [27.2%]	(14.1%) [26.2%]
Less than once per month	(16.7%) [31.1%]	(17.2%) [32.0%]

** (Share of total consumer sample); [Share of consumers who are aware of Karoo sheep meat]*

The similarities between the purchasing frequencies and the consumption frequencies indicate a tendency among consumers to only buy a portion of Karoo sheep meat for a specific occasion. This is in contrast to the bulk buying behaviour reported earlier in terms of lamb and mutton in general. These results could be indicative of the 'niche' nature of Karoo sheep meat, confirmed by the observation that the Karoo lamb or mutton purchasing and consumption frequencies are significantly lower than the frequencies for sheep meat in general, as earlier reported in Table 7.6.

In terms of consumers' purchasing behaviour with respect to Karoo lamb or mutton, only 55.3% of the consumers who were aware of Karoo lamb or mutton knew where to buy the product and only 23.3% of these consumers indicated that the product is widely available. The most popular purchase location for Karoo sheep meat is the supermarket, which could be expected given the urban bias of the sample. In rural areas, there might be a larger dependence on butchers sourcing meat from nearby areas.

The perceived affordability of various meat types were shown in Table 7.5.. The perceived expensiveness of sheep meat was clearly illustrated. It is important to note that Karoo lamb and mutton was perceived as the least affordable meat option compared to all the other various meat options (including 'generic' mutton, beef, chicken and pork), since only 21.4%

[21] Share of consumers purchasing/consuming sheep meat according to a specific frequency.

of the total consumer sample indicated that the product was 'Somewhat affordable' or 'Very affordable'.

The nature of the Karoo sheep meat reputation was investigated through numerous questions. The respondents were first asked an open question to list the three main differences (if any) between Karoo mutton / lamb and mutton / lamb from other regions in South Africa. These results are summarised in Table 7.9.

Table 7.9: Consumers' perceptions regarding the differences between Karoo sheep meat and sheep meat from other regions in South Africa, based on an open question

Difference variable:	Share of consumers who are aware of Karoo sheep meat indicating the specific choice:	
	Main difference:	Combination of main-, secondary- and tertiary differences:
Taste	19.4%	22.3%
Tenderness	9.7%	24.3%
Flavour	2.9%	8.7%
Price	1.0%	7.8%
Fat	2.9%	6.8%
Don't know	41.7%	Not applicable

Given the potential product specificity of Karoo lamb related to the unique flavour of the meat, the perceptions regarding flavour and taste are of particular importance. The first important observation from Table 7.9 is that many of the consumers who are aware of Karoo sheep meat (41.7%) did not have any idea regarding the differences between the product and sheep meat from other regions, while 22.3% of these consumers indicated a taste difference and 8.7% a flavour difference. Despite the fact that the tenderness of Karoo sheep meat and other sheep meat should not necessarily differ, 24.3% of the consumers who are aware of Karoo sheep meat perceived a difference in tenderness.

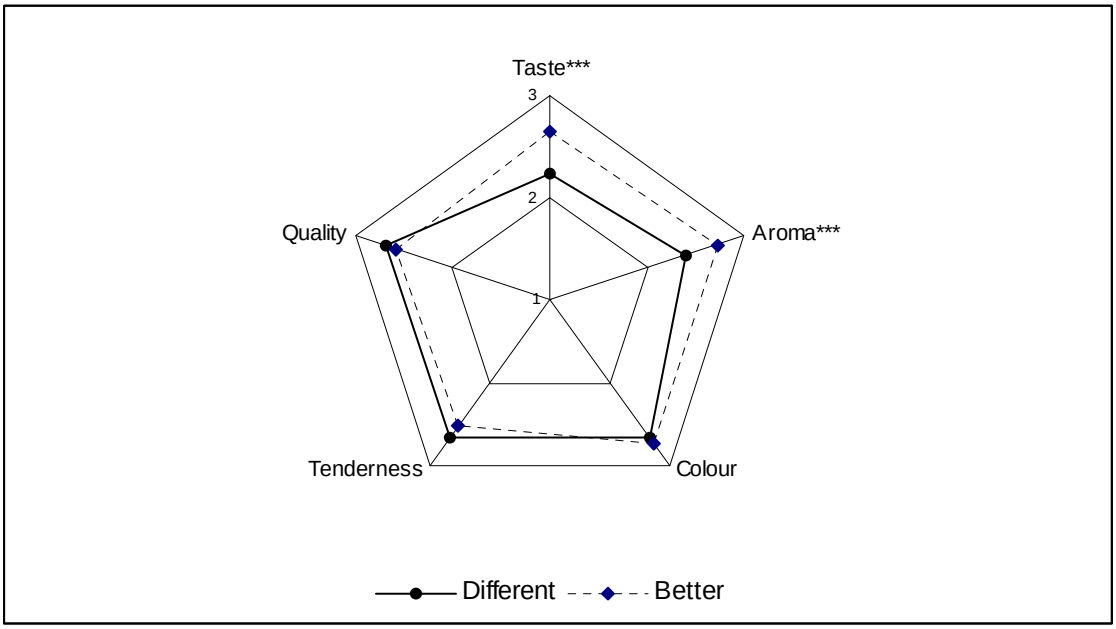
In order to further investigate the reputation of Karoo sheep meat based on consumers' perceptions, consumers were asked to indicate their level of agreement with a number of statements covering issues related to the differences and superiority of Karoo sheep meat in terms of quality, aroma, colour, tenderness and taste through a 5 point rating scale. A summary of these results are shown in Table 7.10 and Figure 7.4.

Table 7.10: Consumers' perceptions of Karoo sheep meat, based on a series of evaluation statements

Attribute:	Share of consumers who are aware of Karoo sheep meat indicating that Karoo sheep meat is … from 'generic' sheep meat:	
	Different:	Better:
General	**63.1%**	**47.6%**
Taste	**63.1%**	**42.7%**
Aroma	**53.4%**	**34.0%**
Colour	**35.9%**	**35.0%**
Tenderness	**47.6%**	**47.6%**
Quality	**42.7%**	**42.7%**

Among the sample of consumers who are aware of Karoo sheep meat, 63.1% of the consumers perceived Karoo sheep meat as 'different', particularly in terms of taste and aroma dimensions. The consumers' relatively strong level of agreement with the statements

that Karoo sheep meat is different from 'generic' sheep meat in terms of taste and aroma dimensions is also evident from Figure 7.4. These observations have positive implications for the establishment of a GI for Karoo sheep meat. However, even though 63.1% of the consumers who are aware of Karoo sheep meat perceived Karoo sheep meat as 'different', only 47.6% of these consumers perceived it as being 'better' than 'generic' sheep meat, a trend that is particularly reflected in the specific attributes of sheep meat taste and aroma. The observation that Karoo sheep meat is perceived as 'different' and not necessarily as 'better' in terms of taste and aroma dimensions is strengthened by the data presented in Figure 7.4. This data illustrates a significantly lower level of consensus among consumers who are aware of Karoo sheep meat, in terms of Karoo sheep meat being 'different' and 'better' compared to other sheep meat.



***** Significant differences at the 1% probability level: Taste [F=13.584, df=1, p=0.000]; Aroma [F=12.014, df=1, p=0.001]**

Figure 7.4: A spider graph illustrating the perceptions of the consumers who are aware of Karoo sheep meat based on a series of evaluation statements, expressed as mean rating scores[22]

The consumers also expressed their agreement with the statement "Karoo lamb / mutton is a traditional food type". Only 44.7% of the consumers who are aware of Karoo sheep meat agreed with this statement. In terms of consumers' willingness to pay (WTP) more for Karoo sheep meat, only 27.2% of these consumers indicated a WTP more for Karoo sheep meat compared to other sheep meat options.

Finally, the nature of the Karoo image in consumers' minds were investigated through an open question stating "When you think about the Karoo, please describe the first images and words that come to your mind". A summary of the responses (expressed as share of the total consumer sample) is shown in Table 7.11.

[22] Scale interpretation: 1 – Strongly agree; 2 – Agree; 3 – Neutral/Don't know

Table 7.11: The nature of the Karoo image in consumers' minds

Image:	Share of total sample mentioning the specific image[23]:
Desert / dry / hot / dusty	54.2%
Karoo bush	12.3%
Positive food images[24]	7.4%
Open spaces	6.9%
Peaceful	4.4%
Flat	3.4%
Sheep / sheep farms	3.4%

The main Karoo image in the consumers' minds relate to the Karoo being a desert, dry, hot and dusty. Thus, the results indicate that the majority of consumers have a rather negative image of the Karoo region. Only a small share of consumers referred to the Karoo shrubs and other positive images including the open spaces and the peacefulness of the Karoo region.

Karoo mutton / lamb- A comparison between Gauteng and Western Cape consumers

Table 7.12 presents a summary of the main significant differences between the Gauteng and Western Cape samples in terms of Karoo mutton/lamb exposure, perceptions and willingness to purchase.

Table 7.12: Significant differences between consumers in Gauteng and Western Cape in terms of Karoo sheep meat exposure, perceptions and willingness to purchase

Aspect: Share of sample…	Gauteng consumers:	Western Cape consumers:
Who is aware of Karoo sheep meat	51.5%	63.2%
Who knows where to purchase Karoo sheep meat	15.5%	39.6%
Who perceives Karoo sheep meat as being widely available	20.6%	47.2%
Who will buy Karoo sheep meat when it is available	7.2%	24.5%
Who purchases Karoo sheep meat at least once per month or more	6.2%	34.9%
Who perceives Karoo sheep met as somewhat affordable or very affordable	24.7%	39.6%
Who perceives Karoo sheep meat as 'different'	12.4%	28.3%
Who perceives Karoo sheep meat as being of different quality than 'generic' SA sheep meat	11.3%	32.1%
Who perceives Karoo sheep meat as being of a higher quality than 'generic' SA sheep meat	6.2%	17.0%

Consumers from the Western Cape revealed a significantly greater awareness and knowledge of Karoo sheep meat, as well as a higher willingness to purchase the product. The data in Table 7.12 illustrates that the availability of Karoo sheep meat is significantly higher in the Western Cape compared to Gauteng, despite the fact that the bulk of the Karoo sheep meat produced in South Africa is marketed in Gauteng. However, generic sheep meat marketing seems to be more prominent in Gauteng than in the Western Cape, which could partly be the result of cultural differences between the regions. The Western Cape is likely to be culturally more closely connected with the Karoo than with Gauteng.

[23] The shares add up to more than 100%, since a consumer could provide more than one image as a response to the question.

[24] E.g. good food, biltong, free range lamb, good meat with shrub flavour, braai, chops, lean meat)

7.9 Conclusion

Whenever we discussed this case study with people interested in the Karoo, the question "but where is the Karoo" was inevitably asked. Indeed, the task of demarcating the Karoo turned out to be a daunting endeavour. In the final instance the natural occurrence of a selection of six different Karoo shrubs was used to identify a specific area that could be classified as the Karoo. For ease of administration this area was overlaid by the municipal boundaries, on condition that one of the six Karoo shrubs must occur on any farm before lamb designated as Karoo Lamb may be produced on that farm.

The case study also spent some time on establishing the specificity and reputation of Karoo Lamb. Regarding the product specificity of Karoo sheep meat, it was concluded that:

- There is no sensory detectable difference between the two main sheep breeds, Merino and Dorper, within a region. This means that the South African carcass classification system is scientifically correct in not specifying breed, and a similar approach should be followed for the purpose of establishing a GI;

- There was no significant sensory detectable difference between mutton produced in the different Karoo regions. This translates into the fact that the Karoo region consistently produces a similar type of sheep meat product, including the western Free State region. This can be explained to some extent by the fact that the grazing plants in years of good rain (as in this instance) are found in the wider Karoo region, and that South African lam and mutton are predominantly produced on natural pasture.

- Mutton from the Karoo region (Carnarvon, De Aar and Kalahari) has definite sensory detectable flavour characteristics which can only be due to the particular grazing plants in these areas that are consumed by the sheep. However, this was not significantly different to mutton from the adjacent Free State region. The principal component analysis also confirmed that the sensory attributes of Namibian sheep meat differs from all the other Karoo-like regions. It is recommended that mutton produced in areas further removed than the greater Karoo region be included in a follow-up study, in particular where no Karoo shrubs are available as part of natural grazing (e.g. KwaZulu Natal and Mpumalanga).

- The fatty acid profile of mutton produced mostly on indigenous plants may be more favourable than those produced on natural grass. This should be further investigated.

- The link between indigenous plants and the unique flavour compounds in mutton from the Karoo region should be further investigated using more sophisticated techniques such as an e-nose.

The investigation of the Karoo sheep meat reputation from the perspective of consumer perceptions revealed a number of positive and negative observations. On the positive side, it was found that 53.6% of consumers are aware of Karoo sheep meat. Among the consumers who are aware of Karoo sheep meat 63.1% and 53.4% of consumers respectively perceive

Karoo sheep meat as having a different taste and aroma compared to 'generic' sheep meat, while about two thirds of these consumers perceive the taste and aroma of Karoo sheep meat as being superior to 'generic' sheep meat. This is a good indication of an adequate reputation among consumers in terms of the taste/flavour attributes of Karoo lamb. Among the consumers who are aware of Karoo lamb and mutton, 44.7% perceive Karoo lamb and mutton as a traditional food type and 68.0% are willing to purchase Karoo sheep meat if it is available. However, there are also a number of observations which cast a doubt on the potential of establishing a Karoo lamb or mutton reputation among consumers:

- There is generally a lack of 'romantic' Karoo images in consumers' minds. The marketing of the Karoo region as a multi-facetted tourism destination could potentially make a valuable contribution towards improving the image of the Karoo in consumers' minds.

- When purchasing sheep meat, 65.1% of consumers do not consider the regional origin of the meat. This observation is in line with the fact that the majority of sheep meat sold on the South African market is not marketed and advertised on a commodity basis (distinguished through the red meat grading system) or on the regional origin of the meat. Consumer education in terms of the origin of meat and the different meat quality attributes related to different origins could improve consumers' sensitivity to the origin of meat sold in South Africa.

- Among the consumers who are aware of Karoo sheep meat, only 35% of consumers purchase and consume Karoo sheep meat twice a month or more, contributing to the conclusion that Karoo sheep meat could be viewed as a niche product in the South African sheep meat market.

- Only 27.2% of the consumers who are aware of Karoo sheep meat are willing to pay a premium for Karoo sheep meat. This could be problematic when considering the potential cost implications of establishing a GI for Karoo sheep meat. It is recommended that consumers' willingness to pay for Karoo sheep meat should be further investigated and quantified through more advanced analytical techniques such as experimental auctions.

It is clear from this case study that there is a detectable notion of a Karoo image amongst consumers, that it is used in certain circles for value addition, often not benefiting the inhabitants of the Karoo. It follows that there is scope for the valorisation and protection of the Karoo image and specifically the Karoo Lamb designation, albeit in a niche market. However, this process can only take place properly if there is a duly recognised entity that can, on behalf of all inhabitants, take ownership of the Karoo designation.

The lack of collective organisation amongst farmers and communities in the Karoo and the fact there is no organisation that could take ownership of the Karoo Lamb designation makes it necessary to also pursue a separate activity to establish an organisation that could act on behalf of the Karoo region and its inhabitants.

It is for this reason that a number of interested individuals (including members from the project team) have initiated a representative organisation called the "Karoo Heritage

Foundation" which will operate as a non-profit organisation or 'trust'. The intention is that this organisation will act as patron for the heritage of the Karoo region which includes amongst other things, Karoo Lamb.

In the draft trust deed of this organisation it is envisaged that it will trace, record, preserve and commemorate the rich heritage which evolved in the Karoo region of South Africa, and to keep in custody such heritage for the descendants of the inhabitants of the Karoo and the South African public in general. Two of the aims of this proposed organisation are: (1) to acquire, register and protect generic names and geographical products, developments, fauna, flora and property on behalf of the beneficiary community; (2) to acquire or renovate buildings of historical and/or architectural importance for the preservation of the heritage of the culture and history of the people of the Karoo or to promote such renovation.

The formation of the Karoo Development Foundation is thus one of the activities that will now continue after the DURAS project comes to an end. It is envisaged that this organisation will take the responsibility of registering Karoo Lamb as a GI and/or as a certification/collective trade mark.

References

Acocks JPH (1988). Veld types of South Africa (3rd edn.), *Memoirs of the Botanical Survey of South Africa* vol. 57, pp. 1–146.

Barjolle D and Sylvander B (2002). Some factors of success for "origin labelled products" in Agro-food supply chains in Europe: Market, Internal Resources and Institutions. *Économies et Sociétés*, 25, 9-10: 1441.

Breeds of livestock. (1999). Dorper and South African mutton merino. [online]. available from: http://www.ansi.okstate.edu/breeds/sheep/index.htm [accessed: 5/30/2006:1].
Demarcation Board. (2006). *Boundary Data*. Municipal Demarcation Board of South Africa, Hatfield, Pretoria.

Esler KJ, Milton, SJ and Dean WRJ. (2006). *Karoo veld ecology and management*. Briza publications. Cape Town.

Le Roux PM, Kotze CD, Nel GP and Glen HF (1994). *Bossieveld – Grazing plants of the Karoo and Karoo-like areas.* Department of Agriculture, Cape Town

Mucina L and Rutherford MC (2006). *The Vegetation of South Africa, Lesotho and Swaziland*. South African National Biodiversity Institute (SANBI), Pretoria.

Neser FWC, Erasmus GJ and Van Wyk JB (2000). Genetic studies on the South African Mutton Merino: growth traits. *South African Journal of Animal Science 30, 172-177*

Schulse RE (1997). *South African Atlas of Agrohydrology and – Climatology*. Report TT82/96, Water Research Commission, Pretoria.

SIRI (1987). *Memoirs on the Agricultural Natural Resources of South Africa: Land Type Series*. Soil and Irrigation Research Institute, Department of Agriculture and Water Supply, Pretoria.

Snowder GD and Duckett SK. (2003). Evaluation of the South African Dorper as a terminal sire breed for growth, carcass, and palatability characteristics. *Journal of Animal Science, 81:368-375.*
South African Meat Industry Company (SAMIC), www.samic.co.za.